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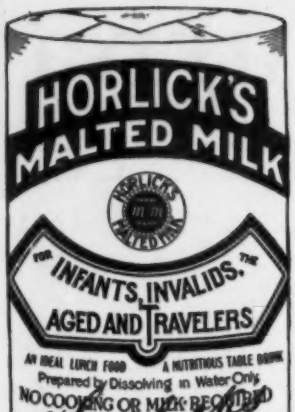
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ILLINOIS MEDICAL JOURNAL

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VOL. XXIX CHICAGO, ILL., MARCH, 1916 NO. 3

Original Articles

SURGICAL PROBLEMS CONSIDERED FROM THE STANDPOINT OF MORBIDITY.*

EDWARD H. OCHSNER, B. S., M. D.
CHICAGO.

During the period of surgical renaissance covering the last four decades the attention of surgeons has been chiefly centered upon the reduction of mortality. To convince oneself of the truth of this statement, one need only to look over modern surgical literature, more particularly periodic journals where one may see innumerable titles such as "Fifty consecutive operations for ovarian cysts, with one death," "One hundred consecutive cases operated on for acute appendicitic with three deaths," etc.

This concentration of attention by hundreds of surgeons upon the one problem, mortality, has had its desired effect and major surgical operations, with the possible exception of operations for malignant diseases, when properly performed, are now attended by as few deaths as they probably ever will be. However, this intense concentration on the one subject has had a tendency to minimize other equally important phases of the surgical problem and it would seem to the writer that at the present time it might be well to devote the same consideration to the question of morbidity that has been devoted to the subject of mortality in the past.

The four problems that should confront the modern surgeon as soon as the diagnosis has been made and the question decided that an operation is indicated, are when and how should this patient be operated upon, in order, first, to insure the smallest possible death risk; second, so as to expose the patient to the least possible suffering; third, to shorten as much as possible the period of acute illness and convalescence, and finally, to reduce to the minimum subsequent invalidism or morbidity.

As stated above, barring malignant disease, the first question has probably been solved as perfectly as it ever will be, at least by that class of surgeons, who, by long apprenticeship and a large personal experience, have acquired sufficient dexterity and reliable automatic technique and the necessary clearness and quickness of judgment to meet all emergencies, provided they have at the same time seen the necessity of a trained, reliable and reasonably permanent force of assistants including an experienced anesthetist, a permanent surgical nurse and a first surgical assistant. More surgical cases go wrong because of untrained assistants than from any other cause. If team work is essential to success on the gridiron and on the baseball diamond, how much more important is it in the surgical operating room, where human life is at stake every day.

The second question on the whole has also been satisfactorily solved. Introduction of general anesthesia by competent, trained anesthetists; the perfection of local anesthesia, as well as the simplification of operative technique and after treatment, have done much to bring this about. Three of the most important things in the reduction of pain and suffering following abdominal operations are the routine administration of a large dose of oleum ricini previous to the operation, the elimination of all meddlesome after-treatment and the use of proctoclysis. So far as I know, all three of these were first systematically employed and popularized by my brother, Dr. A. J. Ochsner. I remember well as an interne at the County Hospital, only twenty years ago, how patients were being tortured by repeated small doses of calomel and liquid magnesium citrate before and after operations; by constant meddlesome interference with the wound such as aspirating laparotomies every hour, catheterizing and douching perineal cases, and by the torturing thirst to which so many were subjected. All these

*Read before the Chicago Medical Society, Jan. 12, 1916.

things have now been done away with and the ordinary surgical operation, unless accompanied with too much traumatism or performed on a too greatly enfeebled patient, is an undertaking which may be entered upon by anyone without any special fear of great pain and suffering.

The third problem has also been very satisfactorily solved. The period of confinement following operations has been reduced to such a degree that further reduction would probably be hazardous; in fact, I believe some surgeons have already gone beyond the point of safety in this regard.

When we come to the fourth problem, the question of morbidity following surgical operations, I think there is a chance for much improvement. Every man with a large medical experience occasionally sees patients who have undergone one or more operations, who are invalids or semi-invalids, and who are suffering from discomforts and indispositions from which they feel, and I think often rightly, that they should have been relieved by the operation. Sometimes a patient has a minor operation and because of some neglect or lack of attention to detail on the part of the surgeon or his assistants, the patient goes through life with more discomforts than he would have suffered had he not been operated on. Thus, for instance, if a patient has had an operation for catarrhal appendicitis and as a result retains ever so slight an intra-abdominal adhesion he may be rendered more uncomfortable than he would have been without the operation, and if the adhesion is at all extensive his life expectancy may be even less favorable.

This is not as it should be. It should be our constant concern not only to save life wherever possible, but to make life as comfortable and useful as may be, and no effort should be spared to accomplish this result.

In all abdominal operations every precaution should be taken to prevent post-operative adhesions. In this connection I wish to call attention to a number of minor points in technique, which while they are not new are not observed nearly as generally as they should be. First: As to the question of rapidity of operating in intra-abdominal operations. Some years ago I heard a discussion on this subject in which a prominent surgeon stated the whole matter in a sentence. He said: "A surgeon in doing an intra-abdominal operation should avoid insane haste and imbecile deliberation." The reason for this is that both result in unnecessary shock and undue traumatism. The unnecessary shock may kill the patient within a few hours. The excessive traumatism may do the same, or if the patient survives, is almost sure to result in adhesions, and abdominal adhesions always mean impairment of health and well being.

In operations for the relief of suppurative conditions within the peritoneal cavity great care should be taken to very gently pack away the uninfected portions of the peritoneal cavity with some suitable laparotomy pads before the abscess is opened. While this effort is usually made, my observation is that it is often not done with the gentleness and care with which it should be done, hence, resulting in abrasions of the peritoneal covering of intra-abdominal organs and subsequent adhesions. It has been a constant source

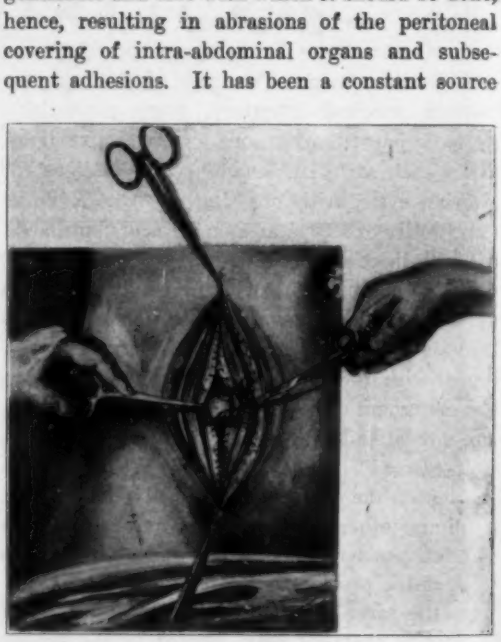

Fig. 1. Method of Closing Peritoneum in Right Rectus Incision.

of wonder to me how many adhesions the peritoneal cavity will get rid of if the peritoneum has been carefully manipulated so that the serous coat has not been unduly injured.

With the right rectus and McBurney's incisions there is always some danger in closing the peritoneum of catching the omentum and unless special effort is taken to avoid this adhesions are very apt to occur. For about ten years I made

use of a device which has entirely done away with discomfort following these operations. It simply consists of suturing the peritoneum from each angle and lifting up the peritoneum with two mouse-toothed forceps when the two sutures are tied together. This absolutely prevents the possibility of catching the omentum or any abdominal organs.

If this is avoided the temporary adhesions of the omentum to the abdominal wound will disappear within a week, as I have had occasion to prove; while, if this precaution is not taken and a stitch penetrates the omentum an opportunity for the mesoblastic cells of the omentum joining with the mesoblastic cells of the abdominal wall is given and a permanent adhesion is very likely to result. In midline laparotomy below the umbilicus this precaution is not so necessary, because here the peritoneum is not so firmly attached to the under surface of the muscles and the recti muscles pull apart instead of together and away from instead of toward the abdominal viscera and the danger of catching the omentum or viscera is much smaller.

In inguinal hernias, especially on the left side, I have seen a number of cases where in sewing up the hernial sac the surgeon had caught the sigmoid not deep enough to cause a fistula, but deep enough to cause a lot of subsequent trouble.

In appendicitis operations I have seen a number of case where the surgeon in burying the stump had attached the ilium to the head of the cecum. I have in mind one such case in particular operated upon by a prominent surgeon for catarrhal appendicitis. This patient was a chronic invalid with a number of severe attacks of partial intestinal obstruction, which were only relieved by subsequent operation.

All of these complications are avoidable, at least in a much larger percentage of cases, if a little more care is exercised by the operator. And to the individual patient this means a great deal, and to surgery it means still more, because every patient who suffers through life from some neglect, oversight, or carelessness of the operator, gives legitimate surgery a black eye and often prevents some relative or friend from seeking surgical relief when he most needs it.

In gynecological surgery, I have seen quite a number of patients operated upon for pelvic infection, who, it seemed to me, could have been spared subsequent invalidism if proper precautions had been taken to prevent post operative adhesions and displacement of the uterus. Unless some provision is made after operating for extensive pelvic abscess, the raw denuded uterus is very apt to fall into the hollow of the sacrum, become adherent there and cause chronic constipation, with its full train of well known systemic disorders. This undesirable condition can be easily avoided by employing a little trick which I described in an article entitled, "Temporary Ventro-Suspension of the Uterus,"[1] and which I have now employed in a great many cases with uniformly excellent results. It simply consists in stitching the fundus of the uterus to the anterior abdominal wall below the laparotomy incision with seven-day unchromicised catgut. This holds the uterus away from the abraided pelvic floor until the abrasions have been covered with new peritoneum and until the round ligaments have had an opportunity to regain their tone.

In orthopedic surgery and particularly in joint tuberculosis, the need of attention to every detail is probably greater than in any other field of surgery and the rewards are correspondingly commensurate, as no line of surgery gives more gratifying results than this, if proper precautions are taken during the operation and if the after treatment is followed up with proper persistence. A surgeon may be a brilliant operator and yet have a very small per cent. of complete recoveries in this line of work, unless he makes provision that the hygiene and general mode of life of his patients be properly supervised for a long time after they leave the hospital.

Following surgical operations, post operative dressings have a great deal to do with the ultimate results. While it is perfectly true that in clean laparotomies the end result depends very largely upon the quality of work done in the operating room, the same statement does not hold good in pus-laporotomy work or in operations on other parts of the body. In the latter cases the operation can be spoiled by poor after treatment and unskillful dressing. I firmly believe that today there are more good operators in this country than good dressers and it is a subject sadly neglected in most of our medical schools and in many of our surgical hospitals. The work is al-

1. Ochsner, Edward H.: Surgery, Gynecology and Obstetrics, January, 1909, pp. 84 to 88.

together too often left entirely to an unskilled and untrained interne. During his medical course he has spent hours and hours studying theories of rare and obscure diseases, theories which may have to be discarded next year, and has spent very little time in learning the science and art of surgical dressing. I know of no surgical operation that requires more skill than the proper dressing of a resected knee, for instance, and I have known a number of resected knees go wrong because of unskillful dressing.

One could duplicate such illustrations almost indefinitely, but my purpose is simply to call attention to the great need of keeping always in view the question of morbidity—the question of getting the patient actually well instead of half well. It is our mistakes which become the stock in trade of the quacks and the surest way to do away with quacks and quackery is to do uniformly good work ourselves.

Much the same problems confront us in surgery that confront us in all other departments of medicine and also in ordinary life. In the last fifty years the mortality rate in Chicago has been reduced from thirty-seven per thousand per annum to fifteen per thousand per annum. In the registration area of the United States during the fifty years from 1851 to 1901 life expectancy has been increased from 35.3 + to 47.6 + ([2] and [3].) If the same proportionate rate of increase has continued since 1901, the average life expectancy at the present time would be a little over fifty years so that every child born in the year 1916 may expect to live on an average of at least fifty years as against 35.3 years sixty-five years ago. But how about the average health and well being of the average individual? Has this correspondingly increased in the past sixty-five years? While it is impossible to collect accurate statistics on this point, it does seem to me that the health and well being of the average individual has not improved correspondingly and this in part at least because we have paid much more attention to the prolongation of life than to the problem of making the life of those who have been saved from death more comfortable, and of raising the general average of health of our citizens. I do not think that this is nearly as good as it should be, or as it can be made to be. In proof of the statement that there is altogether too much ill health among our people, I need but call your attention to the large percentage of rejections in our recruiting stations for the army, where presumably only healthy young men apply; the large number of rejections for life insurance; or the statistics compiled by school physicians; if still in doubt, I ask any well-trained physician to stand on one of our busy street corners for fifteen minutes and watch the crowd in its mad rush. He will agree with me, I am sure, that men, women and even children in perfect physical health are not nearly as numerous proportionately as they should be. One might paraphrase the old scripture saying, thus, "What does it profit a man if he live many years and is more or less miserable and more or less useless most of the time?" I believe most of this can be overcome if, in addition to paying attention to the big things in medicine and surgery, we pay more attention to the little things and learn better how to relieve patients of their minor ailments, which are so destructive of comfort and general well being. Our reward will not only be measurable in dollars and cents, but in the satisfaction of having helped the average citizen to much greater comfort, happiness and individual efficiency.

2155 Cleveland Ave.

2. Gore, John K.: Paper read before International Congress of Actuaries.

3. Rogers, Oscar H.: Chief Medical Director of the New York Life Insurance Co., personal communication from.

DISCUSSION.

DR. LAWRENCE RYAN agreed with the essayist in regard to abdominal conditions, but one could apply equally well what was said to cranial conditions, to intracranial conditions, to intrathoracic conditions and also to peripheral conditions. For instance, there is no line of work that requires more careful asepsis, preparation, technique, and after-treatment, than bone and joint surgery. If we have anything to be thankful for to Mr. Lane, it is that one thing. He taught us what we knew very imperfectly about bone surgery and joint surgery. It took a great deal of courage for one to criticize his own work, and it required a very different sort of courage to come before a medical or surgical gathering and tell of one's failures and why they were failures. He thinks that is largely the cause of our lack of statistics and of literature on the subject of morbidity.

As to teamwork in the hospital and in the operating room, he would like to go one step further than the essayist, and say teamwork ought to begin at the time when examination begins. If the case is one that requires a medical examination, or supervision, have it examined medically. If it requires an examination which will involve some of the specialties, then a specialist should be called in. He thinks

that is what we are coming to, a more efficient line of teamwork than we have been having heretofore. There is no question about the value of teamwork.

The reporting of cases as they come is something that very few men do. About two years ago, Gerster, of New York, reported a series of cases before the Chicago Surgical Society, not of brilliant recoveries after gallbladder operations, but of failures. Very few practitioners do that. He recalled years ago of hearing a very animated discussion as to the proper treatment of acute general peritonitis. Christian Fenger at that time was presiding and left the chair to make a few remarks, and although they were not complimentary of his work, still he said, "Gentlemen, I have operated on eleven cases, with ten deaths." Very few practitioners are willing to have such a statement appear in print or make it at a medical gathering, and that is where the trouble lies with most of our statistics as regards morbidity.

Dr. A. J. Ochsner spoke about that portion of work which the hospital assistant has to do in connection with the morbidity of the patient. In the early days of hospital assistantship, the interne was impressed with the idea that his training must be as thorough as possible; that he must have a month or two in this department; a month or two in that department, and so on, and in that way get the greatest possible grasp of the methods that are employed in the institution. As a result of this, the patient was constantly under the care during his after-treatment of young men who could not possibly become as familiar with any of the definite methods of the chief, consequently after the patient got through with his operation he was in the hands of an inexperienced experimenter, so far as the hospital interne was concerned, and he believed that that is one reason why the after-treatment in so many instances leads to a certain degree of morbidity, and that the plan of hospital service must ultimately be the German university plan of having one chief for one assistant, so that the assistant learns the methods of that chief, and then if he has another chief later on he must have him for a long time so that there will be established in each department a definite, thoroughly planned, systematic, after-treatment.

Dr. Aime Paul Heineck believes that morbidity in surgical conditions can be lessened very materially by accurate diagnosis and by timely operating. He is convinced that morbidity to some extent is dependent upon delay in operating and upon ignorance from a diagnostic standpoint, as well as from an operative point of view. If we operate upon cases of appendicitis before complications are developed, we have a comparatively easy operation from which we can expect a complete and early recovery. If we operate upon cases of ectopic pregnancy in the early stages, we have a comparatively easy operation from which we can expect a complete and early recovery. Accurate diagnosis is essential. Another thing of great importance is rapidity in operating and simplicity of technic. There should be no needless manipulation of the tissues. He believes the morbidity of abdominal operations has been lessened a good deal by abandoning irrigation of the peritoneal cavity, and by understanding the importance of peritoneal denudation. In operating for inguinal hernia, it is advisable not to twist the sac because in doing so the urinary bladder may be drawn into the sac and included in the ligature which surrounds the sac or may be punctured by the needle which is used in suturing the sac.

Another point of vast importance is to give patients after operation rest, mental, physical and emotional. In operations of some magnitude the patient is given the undivided attention of one or two nurses, if possible.

Dr. Ochsner, in closing, agreed with Dr. Heineck that patients after undergoing major operations needed rest, both physical and mental, for four, five or six weeks, and they ought to be placed where they can get it and not be annoyed by visitors, by household affairs or by children.

HEALTH LEGISLATION IN THE LAST SESSION OF THE LEGISLATURE.*

W. F. Burres, M. D.
Representative Twenty-fourth District.
URBANA, ILL.

The bill of rights, a part of the constitution of this state, carries with it so much of human independence that when we come to enact legislation which has to do with control of the rights of the individual, we meet a condition which is hard to confront. With our preconceived ideas of independence: that every man has a right to think, eat, and drink as he pleases, and employ whom he pleases to treat his family when sick, to give whatever remedy he may have heard of, it must become apparent, even to the novice in legislative work, that to get good health legislation, much less good medical legislation, is no boy's job.

In the first place the matter of writing a bill so that it will stand the test of the courts, is a matter for some consideration. Considering the course of a bill through the various committees, then to first, second and third readings, its final passage through the House, then the same routine in the Senate, with all the opportunity for floor amendments, its approval by the attorney-general and finally to the governor—medical men must see at a glance that they must create a statewide demand for a law before it will have much chance for passage.

It is the purpose of this paper to call attention to the work of the Forty-ninth Assembly toward

*Read before Champaign County Medical Society.

this kind of legislation. The bills introduced which were directed to health legislation, had consideration, which has not been accorded to it in previous sessions. We will not go into detail as to the bills which became laws, but simply call attention to some of the laws as passed.

The law to prevent fraudulent advertising, is one which if it shall be held good by the courts, will be of great good to the state at large. Last session a bill was introduced which put the penalty on the publisher. This was not right as it might work a hardship on many honest publishers. This session passed the bill which makes it criminal for the person who offers the advertisement if he knowingly makes a fraudulent statement either as to goods or services, and fixes a penalty of sufficient severity to be felt. If this bill shall be held valid by the courts, we may see much good come from it.

The law which compels all lying-in hospitals to report to the State Board of Administration and permits that board to inspect all books and records, is a bill which was the outgrowth of the Home-finding Committee work, and will, I think, be of much importance. The reports to the Board of Administration instead of the Board of Health was, in my opinion, a wise provision in this law.

We have for a number of years felt that there were some doctors in the state whom we tried several years ago to favor by exempting them under the old law. When some of these evil-doers were caught they could be fined or imprisoned, but they paid the fine and came up smiling with a certificate which the Board of Health was unable to revoke. We passed a law amending the practice act so as to make any man amenable to revocation, no matter how long ago he graduated. This is one of the things which will help the Board of Health in getting rid of some men who could not be controlled in any other way.

A law providing measures for the prevention of blindness is one of the new laws directly pertaining to medical legislation. When we consider the large number of cases of blindness which might be prevented by proper care of the new-born, it would seem that this law might be of much good, not alone as a humane measure, but from the economic standpoint as well. The support of the blind by the state is a tremendous expense. The cost per capita per year in some of the institutions running nearly $300.00 and the number gradually increasing.

The thought implied here would naturally lead up to the mention of another bill which became a law; that is for the detention of diseased prostitutes, that they might be cured, or at least kept from their usual habitats during such times as they might convey infection. It is somewhat problematical of course as to the good this bill will do. It is worth trying.

Another law which will bear mention in this connection is the law known as the abatement and injunction act. Under the operation of this law it is possible to close places of prostitution for a year and thus get rid of the evil in a community. I do not know that this kind of legislation will be of great benefit, but surely any thing which will eliminate even a small percentage of the social evil is to be welcomed by society. The dire results of venereal disease from both the social and economic standpoint, if not a grave sociological question with far reaching effect on civilization, made the discussion of this bill before the House one of more than ordinary interest. It is well to note that your medical representatives were strong in support of the measure, how wisely time will only tell. Let us hope the action will be fully justified.

The vital statistics law was one desired by the secretary of the board of health. I am not sure that it is all that is to be desired, but it certainly can be no worse than the method pursued in this state for the past decade. I have had much to do with Dr. Drake, the present secretary. He is a veritable human dynamo. I predict that if the ends secured by the new law are not satisfactory, it will certainly be no fault of the present secretary of the board. It is well to say here that Dr. Drake was of great aid to the legislative committee and to your legislative members in securing much of the health legislation which passed the last session.

It has been suggested to me that inasmuch as we have in all counties a states attorney and county judge who must of course be lawyers, the superintendent of schools who must be qualified as a teacher, also the surveyor who must have some qualifications as an engineer, that it might be well in the future to make the coroner of the counties outside of Cook, the health officer of a county with certain powers as to gathering vital

statistics, and with full power to enforce quarantine and do all the things required for health preservation. While we could not specify by law that he be a physician, we could make the requirements of his office such that he would necessarily have to be one *and pay him for his work*. The thought is worth considering.

MEDICAL DEPARTMENT OF THE UNIVERSITY.

The appropriations for the medical department of the university have always met with some opposition. This was less apparent in the last session than in the previous ones. Since we now have a medical school supported by the state, it is the duty of this society to accord it our unbounded support.

Perhaps the fact that many men received their medical education at some other than a state school has done much to engender a feeling of independence as to our actions in our professional lives. We have felt that we secured that education at a private institution, paying for it ourselves, that the knowledge we possessed was our own private affair and property and that the state had little to do with how we managed our affairs. If in the future the graduate in medicine feels a certain indebtedness to the state, it will beget the feeling and sense of gratitude that the state has some right to say how that learning and skill shall be best directed for the public good. To be more concise, I think the state medical school will be the open sesame to better state medicine.

The public, as the taxpayer, will feel that it is to a certain extent sponsor for the medical man and will regard him more a part of our institutions rather than the independently educated individual who has too long been considered merely a mercenary personage.

When that condition is fully understood the doctor will become a potent factor in the matter of state government so far as health matters are concerned.

It may not be out of place here to remark that while the state is doing this, it behooves those in charge to see that nothing is left undone to convince the law-makers that they have made no mistake when they took this step toward medical education. I am sure my friend, President James, will pardon any seeming suggestions when I say that we should be as active in teaching medical preparedness in this branch of the university as is sought to be done on the drill grounds of the military department. If we are to have our young medical men prepared as they should be, it is important that the medical branch of the university, as soon as possible, afford all the opportunity for instruction in tropical and camp diseases, in medical and sanitary engineering, and especially in preventive medicine.

Let us as a society in our discussions make it known that we expect more of a state school than we will of the privately conducted one. No better thing can be done than for schools of other countries to know that in America the young medical man is being trained along the lines of medical preparedness. We must readily understand that the military department of the country will suffer greatly if its medical arm should be weakened. Hence, I mention that the appropriations made by the last session were liberal not only with the medical department of the university but with the State Board of Health for other uses which might be necessary for the safeguarding of the public health.

House Bill 592 was one which threw a scare into some of my friends when they found I had introduced the bill in the House. This was one of the many bills proposed by the Committee on Efficiency and Economy. I knew of the faults in this bill when I introduced it, but thought perhaps it was better for a medical man to handle the bill than some one who was not familiar with the faults which it contained.

It is only necessary to say the bill never was reported out of committee. I do not censure the people who wrote the bill. I do not think they considered it as fully as they would in the future. It will be impossible to ever get a law providing for a department of public health which puts all the power into the hands of an appointee, and relegates the doctor to a mere examining board with little else to do, and that subservient to a political appointee. Inasmuch as the bill did not pass it will be better to call attention to it very slightly in one particular, and I quote one section alone which of itself should be sufficient for consideration in this paper. Namely this: In one section making certain exemptions this clause appears in the bill:

"Any person shall be regarded as practicing medicine, etc." * * * *

"And this article shall not apply to surgeons of the United States Army, the United States

Navy or the United States Public Health Service in the discharge of their official duties, or (now listen) to any person who administers to or treats the sick or suffering by *mental* or *spiritual* means, without the use of any drug or material remedy."

Think of putting the faith healer on a par with and in the same class as the United States Army surgeon. I hope that if the bill is ever introduced again it will have careful consideration of some medical men before it gets to a committee and have such objectionable features as these eliminated.

The Optometry bill passed by merely one vote. Suffice it to say that none of the medical men in the House voted for it.

The laws providing for first medical aid on railway trains, for the proper ventilation of factories, for the prevention of poisonous fumes in factories, the "Wash-house" bill compelling factories to afford the employes a place where they might wash before leaving the factory or shop, after a day's work, also the bill providing public bathing beaches in certain localities in Chicago, the bill providing for better playgrounds, the sanitary school law, the right of townships to levy tax for park purposes, and the law granting the right to levy tax for tuberculosis sanitariums, while not medical legislation in the strict sense of the word—were all laws along the line of health legislation. It should be said that most of these bills which became laws had the support of nearly all the members of the House. No law was passed that I think of that will be in any way inimical to the safety or health of the public.

In conclusion let me say this: Perhaps I may say it more freely, as this kind of a paper is not intended for the lay press. I feel free to say that the treatment accorded a member of the legislature who is a physician, was all that any gentleman could expect. I found members universally considerate, willing to hear what might be said upon medical subjects, not prejudiced as many seem to believe, but rather anxious to know what we wanted. I would not advise any man to attempt to deceive members relative to medical legislation, for we have shrewd lawyers who are quick to detect any bill born of prejudice, or jealousy and equally quick to resent it. The fairness of the speaker of the House, Mr. Shanahan, toward all legislation was particularly marked in his attitude toward the doctors and medical legislation. You gentlemen are indebted to many of the members whom I would like to name in person if it were possible, and all that needs to be done in the future to secure good health legislation is to convince the legislature that the sole purpose of such is for the general good of the people of the state and not for personal gain and in my opinion you will get all the good medical legislation that may be desired.

CONCERNING SOME FORMS OF RENAL INFECTION.*

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Among the infections of the kidney and renal pelvis are three types which are conspicuous by the severity of their symptoms, by the still disputed etiology and by the difficulty which the practitioner meets in the interpretation of their symptoms. I have reference to the so-called pyelitis of pregnancy, the pyelitis of infants and the acute unilateral hematogenous infection of the kidney.

When speaking of pyelitis of the gravid woman, one might do well to differentiate between pyelitis *of* pregnancy and pyelitis *in* pregnancy; the latter implying the flaring up of a previously present chronic condition, the former designating a new process which had its origin in some abdominal condition more or less due to the pregnancy.

I believe the majority of these cases to be of the second type; I believe that in many of them upon close investigation a history of chronic intestinal trouble, or acute infectious diseases in infancy or early childhood may be elicited and that more or less vesical distress, such as frequent or painful urination, oliguria or polyuria during and after puberty will form a part of the anamnesis.

If pregnancy occurs in such a woman, not one but several factors working together, may produce the picture of acute pyelitis. I do not believe in the theory of the pressure of the pregnant uterus alone, nor of the parts of the fetus upon the ureter, nor in the obstruction of the free flow of the urine from the kidney, caused by distortion of the vesical portion of the ureter

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or by the physiological edematous congestion of the ureteral orifice and the lower part of the ureter; but we may assume that, pressure from without, edematous swelling within, and kinking of the ureter together, will produce retention of urine in the renal pelvis, and that this stagnating pool offers an ideal breeding place for pathogenic germs, which might have been there before or have entered after the obstruction has occurred. And it does not make any difference as to the severity of the process whether we agree on the urogenous, hematogenous, or lymphogenous route, as long as we are aware of the fact as such, and are using the knowledge of the source of the infection for the relief of the condition and for the prevention of a recurrence.

Thus we shall have to look for the focus, which might be in the bladder, in the intestines—coprostasis or enteritis—pus pockets in tonsils, in a nasal sinus at the dental roots, in the middle ear or in a chronic appendix.

The symptoms of both conditions—the pyelitis *of* and *in* pregnancy—are the same, but the prognosis and the further course of the disease might be somewhat different.

Without a palpable cause the patient is suddenly attacked by severe pain referred to the abdomen, usually accompanied by a slight chill, nausea and vomiting; the pain is persistent and finally localizes in the bladder or in the lumbar region or in both. The temperature rises as high as 104 degrees and the patient feels and looks decidedly ill. Urination increases in frequency, becomes painful and oftentimes the calls for relieving the bladder are almost continuous. The chill and rise of temperature is repeated and the patient has recurrent pains in the region of the kidney.

The blood examination shows the typical picture of a suppurative process, an unusual large amount of polymorphonuclear cells—85 to 90 per cent.—the urine is usually acid, containing pus in varying quantities.

The abdominal muscles in the region of the affected kidney show marked rigidity, and pressure in the costovertebral angle causes pain. The kidney, if palpable, is found enlarged and sensitive to touch. By double catheterization of the ureters urine mixed with pus is secured from the infected kidney, while the urine from the other side might be perfectly normal or show a larger number of granular, renal, epithelial cells—the result of the elimination of toxins on this side. The urine of the infected kidney also shows the pathogenic germs which in the majority of these cases is the colon bacillus, in others a staphylococcus and rarely the proteus.

Without a careful urine examination, particularly of the specimen obtained by catheterization of the ureters, pyelitis might be confused with typhoid or appendicitis. The latter might be erroneously diagnosed in those cases in which a temporary complete blocking of the ureter of the affected side exists at the time when the bladder urine is taken for examination.

Of great differential diagnostic value in such cases is the pain along the ureter of the diseased side, produced when the patient is urged to bear down or to attempt an evacuation of her bowels. This symptom is never observed in appendicitis.

In favorable cases—especially those of the first group—the temperature gradually drops towards the end of the first week and becomes normal within another week. Excretion of pus and germs, however, lasts for a considerable period after all acute symptoms—fever, pain and tenesmus—have subsided.

In about one-third of these cases premature labor occurs, about 40 per cent of the women going on to normal labor at term.

In type one the infection usually subsides in due time, in the second type—chronic pyelitis flaring up during pregnancy—the renal pelvis never becomes normal. This is not surprising when we consider that the infection being of long standing has oftentimes produced more or less permanent tissue changes in the renal pelvis and calices and lesions in the parenchyma. Thus we shall see women of the first type, at least most of them, going through further pregnancies without a recurrence of the former trouble, while those of the second type, not all but many, after seemingly having recovered will be taken down with acute pyelitis in nearly every subsequent pregnancy.

Regarding the management of these cases the views are varying from ultra conservatism to extreme radicalism. Unquestionably a large percentage may be safely tided over the critical period by conservative measures. If the temperature be not persistently high, if the general

condition of the patient be satisfactory, if the pain be not too severe and lasting and premature labor not imminent, it is permissible to resort to the well-known internal medication together with external applications, and changing the patient from the recumbent into a more upright posture, a procedure which always facilitates drainage downwards. Urotropin and salol and large quantities of fluids in conjunction with diuretics are still our mainstay.

Urotropin to be efficient must be given in much larger quantities than is customary. Doses of 15 to 20 grains repeated four to six times in 24 hours are in order. It should, however, be remembered that formaldehyde is only split up in an acid urine and furthermore that some individuals fail altogether to split up formaldehyde—the active principle of urotropin.

The nonappearance of formaldehyde in the urine can be established by the Burnam test and in this way the failure to respond to urotropin medication in some cases is readily explained. Urinary antiseptics are also inefficient in pyelitis of intestinal origin. While they are capable of inhibiting the growth of bacteria in the urinary tract, they do not influence the focus in the colon and in the tributary lymphatics. Urotropin should be given in refract doses for quite a while after the manifest symptoms have completely disappeared—at least as long as the apparently normal looking urine contains bacteria and even beyond that time.

The quickest way to relieve the distressing symptoms and the one indicated if the medicinal treatment fails, consists in passing a catheter to the pelvis of the affected kidney to drain it thoroughly, to rinse it with 1 per cent. dioxygen solution until the fluid returns clean and then to instill a 2 per cent. silver nitrate solution, whereupon the catheter is withdrawn. Where there is a large amount of retention in the renal pelvis with considerable pus, the catheter should be left in place for a day or two, and the antiseptic instillations repeated as often as the individual case may require.

There is no danger of inducing premature labor by this procedure as some are inclined to believe; on the contrary I have prevented it in this way. Induced premature labor is only justifiable in the interest of the mother if all these methods should fail to relieve the pain and the fever. A cure is thereby not effected and the treatment of the pyelitis must be continued after delivery. Such patients should be strongly advised not to become pregnant again until all traces of the disease have disappeared.

Pyelitis in children is an eminently female disorder. According to the different observers the percentage varies from 10 to 25 per cent. for boys and 75 to 90 per cent. for girls.

Pyelitis—both acute and chronic—is more commonly allowed to remain unrecognized than any other disease of infancy and childhood, for in its polymorph clinical course it does not differ sufficiently from other acute and chronic infections as to be readily recognized from this viewpoint alone.

A positive diagnosis can nearly always be made by a careful urine examination. Unfortunately, this is frequently neglected when children develop fever of obscure origin, or show evidence of failing health and loss of weight.

In the acute cases these children develop high fever, vomiting, diarrhea and convulsions, the latter misleading one to assume meningitis. Chills are not frequent in infants. The high fever assumes a remittent or intermittent character, and typhoid or malaria may be erroneously diagnosed. This error might be easily committed in older children who very often have nonfebrile periods of several days. Vomiting, muscular rigidity and pain over the right half of the abdomen, might suggest appendicitis. However, there is always more or less vesical distress associated with pyelitis, manifesting itself by frequent urination and sometimes in chronic cases by incontinence of urine. Indeed incontinence appearing after a period of normal vesical control should point to the possibility of a pyelitis as its cause.

The urine of these little patients always contains macroscopically or at least microscopically blood and pus and in proportion to its quantity more or less albumin. The reaction is mostly acid, except in the few cases in which urea- decomposing bacteria are back of the infection. Most commonly we find the colon bacillus in the stained centrifuged sediment.

The ascending route taken by the bacterial invasion seems to be the favored one in infants younger than one year, while after this period

the infection occurs more frequently by way of the lymphatics or the circulatory system.

Most likely the bladder in diaper children becomes infected through colon-bearing fecal matter, which after soiling buttocks and linen reaches the vulva urethra. This mode of infection is one of the strong arguments for an early control of defecation in infants. It is surprising how quickly children not older than a few weeks can be trained with the aid of a glycerin suppository to have a regular morning and evening movement in a suitable vessel.

Invasion of the renal pelvis through the lymph glands or circulation has been observed to complicate or follow infections of the respiratory apparatus like influenza, diphtheria, whooping cough, and tonsillitis. Intestinal disorders or acute exanthematic diseases like scarlet fever, typhoid and smallpox, are conspicuous in the list of etiological factors.

Most children, if the real nature of the ailment is recognized in time, can be cured by a thorough "autoirrigation" with copious draughts of water, in others the addition of alkalies will be necessary in order to completely neutralize the urine. Most serviceable is potassium citrate in doses of ½ to 1 drachm and more a day in divided doses. The only guide to the efficiency of the dosage is the reaction of the urine, which should be made and kept alkaline until all symptoms have disappeared. If citrate of potassium disturbs digestion—which is often the case when larger doses are indicated—sodium citrate or potassium bicarbonate may be substituted.

Sometimes both measures—autoirrigation and the alkali treatment—fail. This is usually due to the presence of the proteus bacillus in pyelitis and in these cases salol or urotropin, or a combination of both drugs, will be found useful.

Urotropin, however, while very efficient, should be given cautiously to infants, not more than ½-grain every four hours to begin with.

If all these procedures should fail, the administration of vaccines will be found to be a very efficient method to check the constitutional symptoms though it might not be a cure of the disease. Pain and fever subside, the child will put on weight and be seemingly well, but the urine will be found to still contain pus and bacteria, which then, however, seem to give way more promptly to the subsequent administration of urinary antiseptics.

Speaking of acute unilateral hematogenous infection, I have not in mind a condition which is caused by toxins or bacteria of a general septicemia or pyemia and which, as a rule, attacks both kidneys.

I am referring to an infection in one kidney only, caused by the plugging of a terminal renal vessel by a small embolus which holds the pathogenic organism. This condition starts from one or a few single foci in the cortex of the kidney and from there spreads through lymph spaces and blood vessels to other parts of the organ.

It appears either as a diffuse inflammatory process without tissue destruction or it terminates in abscess formation. These abscesses are miliary and located in the cortex just underneath the capsule. Sometimes they grow by coalescence and breaking through the capsule result in a perinephritic abscess. The bacteria producing this type are the staphylococcus pyogenes albus and aureus and the streptococcus pyogenes. (Cunningham.)

The first type of the disease has the character of a diffuse inflammatory process, which, while pervading the renal parenchyma, does not lead to focal abscess formation; I feel inclined to call it "kidney phlegmon." The condition not being caused by pyogenic germs but by the colon bacillus, the cortex of the kidney and also the pyramids show on sections irregular areas of congestion, red patches, which as the acute process subsides gradually become paler.

It is important for the practitioner to be familiar with the symptomatology of these two types for the purpose of the earliest possible diagnosis, especially in the second type. The patients of this class present signs of profound toxemia. After the initial severe chill the temperature rises rapidly and high, the pulse running to as much as 150 a minute, leucocytosis to as much as 40,000. Lumbar pain and muscular rigidity on the affected side are always present—very distinct and, therefore, pathognostic for the disease. The high leucocytosis, fever and abdominal pain might lead to the erroneous diagnosis of appendicitis or empyema, especially so because the urine rarely contains sufficient pathologic material to point to the seat of the trouble or to reveal the seriousness of the lesion.

However, the lumbar tenderness and rigidity should help to avoid this error.

If not relieved within a few days, the toxemia overwhelms the patient and death ensues in delirium. In early nephrectomy we have the only means of removing the septic material and saving the patient.

The symptoms of the diffuse inflammatory type are the same as of the suppurating one, but the difference lies in the lesser degree in which they manifest themselves and in the more pronounced urinary finding.

In the suppurating type very little, if any, pathologic material passes through the tubules which are obstructed *within* by septic products, and compressed from *without* by inflammatory infiltration.

Renal decapsulation is indicated in the inflammatory type, with or without incision of the parenchyma as might be deemed necessary in the individual case.

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THE CONSERVATION OF LIFE IN THE PROSTATIC.*

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To remove the prostate gland is a comparatively simple operation to one who has some degree of surgical skill and who thoroughly understands the anatomy of the perineum, the prostate and the bladder. To have your patient live and have a functionating bladder is quite another proposition.

I have no thought of entering into the etiology, pathology or symptomatology of the senile hypertrophied gland, nor do I propose to discuss the advantage of the supra-pubic over the perineal route or vice versa.

I, however, wish to call your attention to some points that will help to lower our mortality rate in this class of cases. By the very nature of the condition we are not very often called upon to treat these cases under the age of 60 years and most frequently between 65 and 75. We have an individual who is undergoing senile decay and we are called upon to give relief by major surgical interference.

Infection of the bladder is the one thing above all that we want to avoid, and yet this is not always possible. However, this should not deter us from making every effort to prevent it. The primary examination should be done under the most strict aseptic conditions. I want to emphasize this as only too frequently have I seen these cases so badly infected by the first catheterization that their doom was settled then and there.

Improper instruments, faulty technique and disregard of asepsis, together with the lack of prophylactic remedies against infection increases the mortality percentage by leaps and bounds. I have reference particularly to those cases where the physician is called in an emergency to give relief to an over distended bladder. There are very few of these cases that will permit of catheterization with the ordinary catheter and usually considerable traumatism is produced by forcing the catheter to glide over the obstruction at the neck of the bladder to the point where urine will flow.

By this time, frequently, the eye of the catheter is plugged by a clot of blood, more manipulation is indulged in and more trauma produced. The hemorrhage from such trauma is many times of serious moment, the bladder filling with clots causing constant straining and tenesmus and the patient is brought to an emergency operation under unfavorable conditions.

Again, we may have as the result of this trauma effectual plugging of the neck of the bladder from the edema and inflammatory reaction which necessarily calls for repeated catheterization to relieve the urinary distension.

Under my present method of operating, I am convinced that the mortality rate has a direct ratio to the absence or the severity of the infection in the bladder. A clean bladder, a low mortality rate; a badly infected bladder, a high mortality rate.

Inability to empty the bladder or a large amount of residual urine calls for repeated catheterization or a self-retaining catheter. The former means sooner or later an infected bladder. The latter is tolerated by a very small percentage of patients. The catheter produces constant discomfort and irritation which soon leads to infection.

Then we have the class of cases who have never been catheterized or instrumented and yet have an infected bladder due to the chemical irrita-

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tion of the bladder from the decomposition of residual urine and the ever present colon bacillus.

In all of these cases two problems require our consideration. First, the relief of urinary distress, and second, the restoration of the functions of the bladder. In my mind the first condition is best met by the supra-pubic cystotomy. Constant drainage of the bladder can only be done by the cystotomy or by the self-retaining catheter. I have already stated that few patients tolerate the latter. They are no more free to go about than with the cystotomy and are quite as uncomfortable so far as caring for the urine is concerned. Forty-eight hours after cystotomy the patient suffers little or no discomfort except the care of the urinary discharge. The bladder is at rest, the patient eats and sleeps normally, all back pressure is removed from the kidneys and the bladder can be easily irrigated and cleansed without distress to the patient, and quite as important, one step in the removal of the gland has been accomplished and the route sealed from infection by the presence of granulation tissue.

There is no definite time to complete the operation except to wait until the condition of your patient warrants it. My plan is not to hurry the second step. In one case I found it necessary to wait two months before I felt safe to undertake the removal of the gland.

Brought to the operating table under favorable conditions we still have the danger of the anesthetic upon the circulatory, respiratory and rénal systems and with an unfavorable case the outlook is gloomy indeed.

Some months ago I began the use of novocain and suprarenin locally. For this I claim no priority, merely a report of what I have been able to accomplish in a satisfactory manner to myself and patient. Up to the present time I have successfully used it in ten cases. I use a solution of 0.5 to 1 per cent and where a cystotomy is done only the tissue is injected.

In removing the gland I use the parasacral injection and inject about 40 c.c. in either side as well as the supra-pubic tissue. In one case I used a 5 per cent. alypin solution in the bladder, but cannot say it was of any benefit. By this method I have never found it necessary to inject the gland itself through the supra-pubic wound as some advise.

Control of the hemorrhage at the time of the operation is best controlled by the placing of a Hagner bag. Post-operative hemorrhage is most frequently due to the presence of blood clots in the bladder, blocking the tube and causing the patient to attempt their expulsion by contracting the bladder. This is guarded against by closely watching the tube and removing any clots that may form.

Bleeding from the incisions in the anterior bladder wall will occasionally be met with and should be controlled by ligatures. Suppuration of one or both testicles is not uncommonly encountered, particularly in badly infected bladders, and is a factor in the mortality rate. Of late I have been attempting to prevent this by placing a ligature around the vas deferens as the first step in the operation. This is easily and quickly accomplished under local novocain injection and is of no consequence from the patient's standpoint.

The post-operative treatment of the bladder and of the patient is very important. The bladder should be irrigated once or twice daily depending upon the severity of the bladder infection. For this I prefer the solution of the oxycyanid of mercury. The patient should be gotten out of bed as soon as the tube is removed and while in bed should only be in the recumbent position during the sleeping hours.

My conclusions from the standpoint of reducing the mortality in these cases are:

First: That suprapubic cystotomy is to be preferred to repeated catheterization or the self-retaining catheter.

Second: That suprapubic cystotomy and prostatectomy can successfully and safely be done under local injections of novocain-suprarenin solution.

Third: That in the employment of conclusion one and two in the hands of competent operators the mortality will be reduced to a minimum.

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A FEW OBSERVATIONS ON EPILEPSY.

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In daily association with chronic epileptics one cannot help but notice that certain characteristics stand out prominently:

1. They are usually stout, well-nourished, and have large appetites.

2. They are chronically constipated.

3. They have few diseases outside of gastro-intestinal tract, and if they have any disease or injury, there are no convulsions during the period of illness, nor for some time afterwards.

4. Epileptics, as a rule, do not develop bed-sores, and lacerated wounds seldom become infected.

5. There is a sour odor to their breath during the convulsion.

6. They are stubborn and quarrelsome.

7. Three-fourths of the disturbances occurring on the wards are caused either by the epileptics or through them.

8. They have a peculiar, monotonous or drawling voice, which is almost diagnostic. This is found in chronic epileptics and may be due to mental change.

9. Their facial expression is usually dull and sullen.

10. Many epileptics resemble the catatonic dementia praecox patients, who also may have epileptiform and hysteriform episodes. It is possible to have praecox complicated with epilepsy.

Etiology. Not a great deal is definitely known regarding the etiology of epilepsy. A consideration of the convulsions in general seems to indicate that there are different groups of cases. Heredity (which plays an important part in many cases), infection, intoxication, traumatism, metallic poisoning, syphilis, and reflex factors have all been assigned as the cause of the convulsions. The more recent trend of opinion, however, is that there is, in idiopathic epilepsy, some metabolic defect.

Other views upon the auto-toxic causation of epileptic fits are Haig's uric-acid, Krainsky's carbamate of ammonium, Donth's cholin, and Ceni's cytotoxins. Of none of these is there proof. The evidence, such as it is, points to these substances as the *effect* rather than the *cause* of the epileptic seizures.

My observations were made upon chronic epileptics at the Jacksonville State Hospital, Jacksonville, Illinois. I have had the urine of one hundred and forty epileptics examined, principally for the sodium chlorid and the calcium salts. The urine was collected at various times, by the catheter, during the convulsion and shortly after the convulsion. After analyzing these urinary reports I came to the following conclusions:

1. When patients are not having convulsions the percentage of chlorids was increased in the urine. (In 62 per cent. of cases; normal in the rest.) The normal percentage excreted in a healthy person is 0.08 to 1 per cent. In nearly every case it was above normal, and in a number of cases it reached almost 2 per cent. (Purdy's method.) The calcium salts during this period (in 95 per cent. of cases) were more abundantly excreted. The specific gravity ranged from 1013 to 1028, with acid reaction.

2. During the convulsion (specimen drawn with catheter) the calcium salts excreted were slight in amount or absent, and the percentage of sodium chlorid was diminished. The convulsions varied according to the percentage of calcium and sodium chlorid in the urine.

3. About four hours after the convulsion, when the patient was able to be up and about, the percentage of sodium chlorid rose to nearly normal, and the calcium salts began to reappear. The specific gravity of the urine also went up.

4. When the percentage of sodium chlorid in the urine was normal or increased, the calcium salts were also increased; when the percentage of sodium chlorid was decreased the calcium salts were, in nearly all cases, absent, and in the few remaining cases in but a slight degree.

It was also noticed that the acid ammonium in the urine, in most cases, followed the same course.

Blood. While in the convulsion, the blood was thicker, flowed more slowly, was darker in color, coagulated more rapidly, formed a larger and firmer clot and did not break up as freely as normal blood. Four hours after the convulsion the blood was lighter in color, thinner, and did not coagulate as quickly, while the clot remained less firm.

I examined the blood of a number of epileptics during the convulsions, and in the interparoxysmal stage, and compared it with the normal blood. During the convulsion many calcium carbonate crystals were found, some calcium oxalate, and some phosphate crystals. After the convulsions (about four hours), the percentage of calcium crystals was about the same as it is in normal blood (microscopically).

It would appear from the above that the calcium and sodium salts play a part in epilepsy.

Calcium Salts (Howell's Physiology). "The calcium salts are present in relatively small quantities in the blood, but they are absolutely necessary for contractility and irritability of muscle tissue. When present in quantities above the normal or when in proportional excess over the sodium or potassium ions they cause a condition of tonic contraction that has been designated as 'calcium rigor.'" Again: "A striking experiment which shows the importance of calcium is to irrigate a terrapin's heart with blood from which the calcium has been removed by precipitation with sodium oxalate. In spite of the fact that all other constituents of the blood are present, the heart ceases to beat, and normal contractions can be started again promptly, by adding calcium chlorid in the right amounts to the oxalated blood."

Sodium Salts. "The sodium salts in the blood and lymph assume the chief part in maintaining normal osmotic pressure. Sodium chlorid exists in the blood plasma to the extent of 0.5 to 0.6 per cent., and the normal osmotic pressure of the blood is mainly dependent upon it. The sodium ions have in addition a specific influence upon the state of the heart tissue. When sodium is present in physiological concentration it produces relaxation of the muscle tissue."

It appears that there is a well-marked antagonism between the effects of the calcium and that of the potassium and sodium. The calcium promotes a state of contraction; the sodium and potassium a state of relaxation. Another author says: "The sodium ions have a still further use in the body in acting in combination with the potassium ions in producing a state of relaxation in conditions of tonic contraction of the muscle tissue. Owing to the larger amount of the potassium this has been called 'Potassium inhibition.' The action of the Na and K ions seems to be diametrically opposed to the action of the calcium ions, which bring about a condition of tonic contraction of muscular tissue, or 'calcium rigor.'"

Simon says: "In the contractile function of a cell it is certain that the inorganic elements play an exceedingly important part. The calcium ions are normally present only to a very small extent, but their presence is absolutely necessary to contractility. Another action of the calcium salts in the blood is for the formation of fibrin."

According to M. Binet, calcium salts exert a special influence upon the nervous system, and may occasion muscular contractility. Toxic doses of the calcium salts arrest the heart in systole.

Foster's Therapeutics: "Calcium salts promote constructive metabolism *in small doses*, and destructive metabolism *in large doses*." It is found that the calcium salts are poisonous when not counterbalanced by the sodium and potassium salts.

Halsey, Pharmacology, p. 495: "It must also be emphasized that calcium salts are by no means non-toxic, for animals into which 0.3 to 0.4 gm. CaCl per Kilo have been injected subcutaneously die in a few days as a result of a central paralysis."

Blood. Pugh says that "the alkalinity of the blood is constantly lower in epileptics than in normal persons, undergoes a diminution before the fit, and a still further diminution after it, and returns to the usual level after six hours, excepting in cases in which another fit takes place after a short interval." The alkaline reaction of *normal* blood is exceedingly marked, and is mainly due to the sodium salts which the serum contains.

Campbell, on Treatment: "All the cells of the body dwell in saline fluid." *Sajous:* "Our tissues and cells continue to exert their function in a fluid the composition of which presents the closest resemblance to sea-water," and "the globulins and the albumoses are kept in solution in the plasma by the potassium and sodium salts. Chlorid of sodium when it passes out of the organism in the urine probably assists in the excretion of waste products. This alkalinity is of great indirect importance, i. e., *it enables the blood to carry an adequate quantity of* CO_2, and thus assists it in efficaciously ridding the organism of this gas."

"When the supply of sodium chlorid is inadequate all the functions of the body are hampered, since it is the solvent of serum globulin. The free osmotic properties which the lymph in the tissue spaces owes to the sodium chlorid insures another important function, viz., that of sweeping away in the lymph-current all waste derived from the cells. It is pre-eminently the salt which

maintains the osmotic equilibrium between the tissues and the blood."

A question arises as to whether the sodium chlorid is increased or decreased. By watching epileptics one finds that they crave salt (putting large quantities in their food), vinegar and tart food, such as green apples, pickles, etc. Again, the blood of an epileptic is dense, though we know that sodium chlorid normally keeps it in solution. Can we not, therefore, reason that there may be a deficiency of sodium chlorid? During a convulsion the alkalinity of the blood is reduced, though sodium keeps it normally alkaline; which is another reason for thinking there is a reduction of sodium in the blood.

Again, the blood is dark in appearance, and seems venous, which (as sodium chlorid assists in ridding the organism of carbonic acid gas), is still another reason for believing there may be a deficiency of sodium chlorid in this disease. And, finally, as the retention of sodium chlorid is known to be a factor in the production of edema, and the epileptics I examined did not show any edema, another reason is added for supposing deficiency of chlorid.

Calcium salts. Calcium we know is necessary for the coagulation of the blood, and as blood apparently coagulates rapidly in an epileptic (during status), one might draw the conclusion that there must be an over-supply of this salt. And from the fact that the calcium salts appear in the urine at certain periods, and are absent or slight during the convulsion, I surmise that there is an accumulation in the system. The system is able to take care of them at first; but is not able to do so after a while, and then these salts exert their toxic action and produce the convulson. After the convulsion the system appears to recover its power, and elimination of calcium salts again takes place. As sodium chlorid is antagonistic to calcium salts, and they are also eliminated in excessive amounts, it leaves the calcium in the body to exert its toxic effects.

Experiments. Iodine is said to be the main constituent of the thyro-parathyroid secretion (there is at the present time no adequate test for the thyroid-parathyroid secretion in the body fluids), and to determine whether there was a deficiency or an over-supply of iodine I gave a number of epileptics, in different groups, thyroid extract in small doses, tincture of iodine in solution, potassium iodid in solution. Within twenty-four hours all these patients had convulsions.

Toxicity of Epileptic's Blood. Herter, Krainsky and others succeeded in producing convulsions in rabbits by injecting defibrinated blood drawn from an epileptic during the course of a paroxysm. The more toxic the blood, the greater the convulsions. I have injected blood taken from an epileptic during status, and produced convulsions in cats in about five hours. Blood from the status cases to which was added NaCl did not produce convulsions. In one cat, during the convulsion produced, I subcutaneously injected a large quantity of NaCl solution, and convulsion soon ceased, after polyuria.

In another cat injected with epileptic's blood the following was noted: Cat injected with blood taken from epileptic during convulsion (this was first convulsion this patient had had for ten days, and was short in duration); the cat was very quiet at first, and curled up in cage. Gradually the pupils became contracted; the cat appeared depressed, and its heart beat very rapidly. At times it would open mouth and breathe in a labored manner; and it refused to take nourishment. About four hours after injection co-ordination was not so good, and the cat became more restless; fine and coarse tremors developed, with some jerking of the muscles. Shortly afterwards the cat had polyuria and gradually became brighter.

Believing a convulsion could be produced in a cat by injecting calcium, and not desiring to use any of the decalcifying salts (Cal. lactate), a concentrated solution of calcium hydroxide (lime water) was injected, about an ounce, subcutaneously into the cat's side, with the following result: In one and one-half hours there were noticed jerkings, local spasms, diarrhea, trembling, twitching in front and hind limbs, nodding of head, and a fine tremor running over whole body. (As only one cat was injected with calcium salts it might be possible that the phenomenon was due to other causes than the calcium salts.)

Gastric Disturbances. The writer noticed that during a convulsion, or within twelve hours after a convulsion, the tongues of epileptics are, invariably, thickly coated and their breath foul. Frequently, in passing through the ward, I have examined the tongues of epileptics, and from

their condition have been able to tell whether they had suffered from a convulsion; and was generally able to confirm this by the records.

Bassler, Diseases of the Stomach, in reference to epilepsy, says: "Gastric hyperesthenia, gastroptosis, gastric atony and states of habitual constipation or fermentation are common associations with epilepsy."

Parathyroids. The investigations of MacCullum seem to indicate that the parathyroids control calcium metabolism.

Thyroid. On giving any patient thyroid gland in normal doses there is noticed an increased output of chlorids in the urine, and a leucocytosis. Roos found that in healthy dogs feeding with thyroid caused an increased excretion of nitrogen, NaCl and phosphoric acid. Parhon, Dumitresco and Nissipesco found in cats and dogs after thyro-parathyroidectomy an increase of calcium in the nerve centers. Brown, Physiological Principles in Treatment, p. 380: "It is clear that calcium excretion is decreased by thyroidectomy and increased by thyroid extract."

Epileptics presenting symptoms similar to those found in Exopthalmic Goiter. I have frequently noticed that epileptics presented quite a few symptoms similar to those found in exophthalmic goiter, such as increased size of neck; fast pulse; pulsation of the carotids; tremors; digestive disturbances; irritability; vasomotor disturbances, such as cyanosis and coldness of the extremities. Prof. Jolly has reported several cases of girls in their teens, in whom a goiter appeared shortly before the first convulsion. (Within the last week two epileptics came under the notice of the writer—one a man of thirty and the other a boy of fourteen—both having enlarged thyroids.)

A theory as to the causation of an epileptic convulsion in certain cases:

1. A susceptible person (heredity or acquired.)

2. Shock (psychic or physical). (Most observers agree that emotional disturbance is one of the most common excitants of an epileptic fit.)

3. Disturbance of thyroid and parathyroid function, shown by derangement of chlorid and calcium metabolism.

4. Calcium exerting its irritating influence upon defective cortical cells.

5. Sodium chlorid eliminated, causing changes in blood and stomach secretion.

6. Suspension, temporarily, of the calcium and sodium chlorid antagonism.

Treatment. The treatment should be individualized. As it was recommended that table salt be eliminated from the diet of epileptics, I did so for many months, and without benefit. The patients became noisy, restless, quarrelsome and violent. J. Voisin, R. Voisin and Krantz followed this treatment for five months with thirty epileptics. They found that though the seizures were fewer at first, the patients gradually relapsed into the former state.

Experience with bromids in the treatment of epileptics showed me that although the convulsions were controlled for a time, that ultimately even while under treatment, the convulsions returned, and with greater severity. This result led me to believe that the potassium and sodium bromid controlled the convulsion for a time because the K and Na ions antagonized the calcium ions; but that finally the bromid intoxication precipitated the convulsions.

On the assumption that there is a deficiency in the sodium chlorid and an over supply of calcium salts in the system of epileptics, I found the following method of treatment one of the best to lessen the frequency and severity of convulsions in the chronic epileptics, under my care:

Diet. An absolute milk diet was not adopted as milk does not agree with all patients, and convulsions have been brought on by milk on account of its richness in calcium salts. A diet which was poor in calcium salts, such as meat, fish, fruit and potatoes, was given. Schlöss found that during the meat period the seizures were fewer than before, but during the milk and vegetable period they increased. Convulsions frequently occur after an epileptic has partaken of cabbage, turnips, tomatoes, spinach or rhubarb. Only the quantity of food strictly necessary to the needs of the body should be allowed. The patients are urged to use plenty of salt with their food. (Cohn and Voit have proven that the absence of salt from the diet completely checks the production of HCl in the stomach.) To keep the stomach and bowels in good order HCl (to protect NaCl in the body), and cascara sagrada are given. At times a rectal injection of sodium

chlorid solution is advisable. Tinct. gentian Co. is also given as a stimulant to the stomach.

Enriquez and Grent found that the addition of large doses of NaCl during four months diminished the intensity and number of attacks.

By use of the simple method outlined above, and without the use of any sedative, such as bromid, chloral, etc., it was found that the patients appeared brighter, their health improved, they were easier to handle, and the convulsions changed in character, becoming less frequent and severe.

Status epilepticus. I have frequently brought a patient out of these attacks by hot normal saline solution per rectum.

25 E. Washington Street.

DEMENTIA PRAECOX STUDIES.

AN APPARENT RECOVERY OF A CHICAGO CHINAMAN FROM BERIBERI AFTER THREE DOSES OF VITAMINE-CONTAINING EXTRACT OF RICE POLISHINGS.*†

BAYARD HOLMES, M. D., AND

JULIUS RETINGER, PH. D.

CHICAGO, ILL.

The study of dementia præcox leads into many by-paths. The unique case which we report tonight is the result of following one of them.

There is a peculiar parallel between beriberi and some forms of dementia præcox. The adrenalin reaction in the latter has frequently been called a "vagotonic" symptom, and beriberi is distinctly vagotonic in its manifestations. In the beriberi of infants there is an aphonia, not quickly relieved by remedies that cure the little patients of all other symptoms. The inactivity and mutism of dementia præcox are conspicuous symptoms of that disease. The extract of rice polishings is "an almost miraculous remedy" (Albert, *Philippine Jour. Sci.*, 1915, XB, p. 81), in infantile beriberi. Vomiting, whining, restlessness, insomnia, dyspepsia, dysphagia, and oligura disappear as if by magic within a few hours after the extract is given, but the aphonia lasts for six or eight weeks and, rarely, for as many months. So long as the aphonia lasts, the extract must be continued.

Seeing some resemblance then between dementia præcox and beriberi, and recognizing the great value of extracts containing vitamine in the treatment of this condition, we obtained some rice polishings in August, 1915, and began to prepare the extract and also the vitamine by the methods recommended by Funk and others. The enormous advance in the price of the chemicals required in the production of vitamine compelled us to depend on the extracts alone for therapeutic use in dementia præcox.

The extract was standardized by using as a daily dose the extract derived from a kilo of rice polishings after the method devised by one of us. (R.)

In order to show the value of the vitamine in experimental beriberi, we will show two birds on the screen that had been fed on polished rice and water for twenty days. They were in a spastic condition of the disease and could not live more than three days. They were each given, by means of a catheter and syringe, a single dose of vitamine solution, and three hours later they presented the appearance shown in the two following pictures. Figs. 1 and 2. (From Casimer Funk's Die Vitamine, Wiesbaden, 1914, VIII and 193, Figs. 20 and 21.)

The two skiagraphs of the thorax which are next shown represent the condition of a boy's heart before and forty-eight hours after three doses of vitamine-containing extract of rice polishings. (Williams & Saleeby, *Philippine Jour. Sci.*, 1915, x. B., p. 99.)

With these preliminaries, we shall present this young chinaman, Moy Lee, thirty-two years old, residence, 227 W. 22nd street. He gives a history of a healthy youth and young manhood. He has worked hard and long hours. During the past year and a half he has been out of work most of the time. He does not drink, smoke or use opium, and has not had any venereal disease. He began to be sick in July, 1915. He would feel great weakness, and for two or three days at a time he could not raise a foot up a step without using his hands to lift his knee. He walked on the level as if "stuck in the mud." After two or three days of this weakness he would get stronger for a few days, and then, with gradually shortening intervals, the weakness would come on

*Read at the Chicago Medical Society, Jan. 26, 1916.

†From the laboratory of the Psychopathic Hospital, Cook County Hospital, Chicago, under the direction of Dr. Adam Szwajkart.

and continue for two or three days again. The extent of the weakness was increased with succeeding attacks, so that when seen first by one of us (H.) on December 1, 1915, he was not able to rise from his chair without using his

Fig. 1. A pigeon with artificially produced beriberi. This bird would not live more than three days. Four milligrams of vitamine was passed into the crop. Casimer Funk, Fig. 20.)

Fig. 2. The same bird three hours later. (Casimer Funk, Fig. 21.)

hands, and he could not hold a cup or his chopsticks securely and was always dropping them.

At that time (7 p. m.) he was dressed and sitting in his club or tong. With help he got out of his chair and was able to walk unsteadily into a back room, where he was undressed and examined. His pupils were moderately dilated and responded promptly to light and touch. No adrenalin mydriasis. No Rhomberg. Was unable able to step up three inches without using his hands to lift his knee. No Babinski. No ankle clonus. Diminished petellar reflexes. Moderate scrotal and abdominal reflexes. Temperature 98.6, pulse 80, blood pressure 105. Blood taken at this time gave negative Wassermann. Was not fortunate enough to get cerebrospinal fluid, though we made considerable effort. The condition of his skin and hair was good. The teeth were remarkably clean and the gums only slightly retracted. No pyorrhea, and no blue line on the gums. Although he complained of formications, there were no bugs on his body and no eggs on the pubic hairs. His abdomen was not tender. All symptoms were bilateral. He said he was always hungry but not thirsty. He urinated without difficulty. There were no abnormal elements in the scanty, high colored urine.

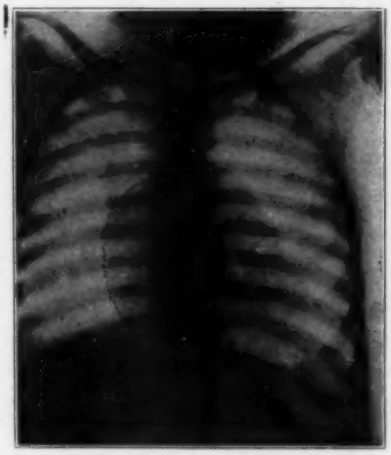

Fig. 3. The heart immediately before the administration of vitamine.

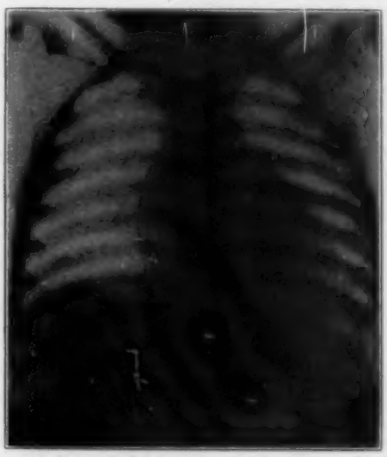

Fig. 4. The heart forty-eight hours after the administration of vitamine.

He was constipated, but "salts" moved his bowels easily. His legs had never swelled he declared, but his ankles were marked by the tops of his shoes. There was obvious edema of the face. This, he said, had been worse at times. The area of cardiac dullness did not seem to Dr. Bayard Holmes, Jr., to be increased; his lungs were free from any evidence of disease.

He had been treated by mercurial pills and by intravenous injections, presumably for syphilis. There were so many symptoms of beriberi in this case that he was given three doses of vitamine-containing extract of rice polishings, recently prepared by us for use on dementia præcox patients, one at night and two the next day, aggregating the extract of six pounds of rice polishings. He felt better after the first dose and when he came to the office four days later, he could step up into a chair without touching anything with his limbs. He has remained well ever since. Strychnin-containing tonics he cannot endure; they make him worse. Since he took the extract he needs no laxative.

His diet now, in addition to his customary rice, consists of two oranges, two apples, or one grape fruit each day, with directions to eat the skins, the seeds and the stems.

If the diagnosis of beriberi in this case is not fully supported by the meager anamnesis and the clinical examination, the marvelous action of the vitamine-containing extract seems to confirm it. We cannot resist the temptation to use this remedy for cases of dementia præcox that exhibit the dilated heart, the formications, or the muscular symptoms of beriberi.

ALCOHOL IN ITS RELATION TO INSANITY IN THE MALE SEX.*

C. C. Ellis, M. D.
Chicago State Hospital.
CHICAGO, ILL.

Since the opening of the doors of the Chicago State Hospital, the rehabilitated Cook County Hospital for the Insane, there has kept up an incessant stream of admissions constantly taxing its capacity and facilities. Bed after bed has been added until not a niche remains unoccupied and we stand the second largest state hospital in the west. At the same time there has been a marked increase in population in all the other state hospitals of Illinois. Many of Cook County's insane have been sent to Elgin, Kankakee and Peoria, for lack of accommodation nearer Chicago.

The relative increase in insanity possibly is more apparent than real when we consider the growth of Chicago and suburbs and the ever tightening grip of public opinion and official activities on the problems of segregation of the insane, as well as the feebleminded, the delinquent and the criminal. But the very evident failure of the state institutions to build fast enough to accommodate the daily increasing army of mentally alienated leads to the question of paramount interest, why are so many becoming insane, and is there no prevention?

In an effort to throw light on the causative factors I have gone into a large number of cases coming under my own observation and whose life histories, genealogy and physical and mental conditions have been analyzed as accurately as possible. The influence of alcohol in producing states of insanity, both directly and indirectly, has appeared so striking to me that I have felt compelled at this time to bring it to your attention and the attention of the public. Especially since the remedy lies in prophylaxis and this is a question now vitally interesting to this community.

I wish to report a series of 460 consecutive male cases of nearly all forms of insanity admitted to one reception ward from the early part of 1913 until December 31, 1914. There was no selection of cases. They were all originally examined by the writer and most of them have received one or more additional examinations by other staff members. The status of all cases still in the hospital is given as of June 1, 1915. The others upon date of parole, discharge, escape or death, as the case may be. In this series there occurred at least 97 cases of alcoholic psychoses—21 per cent. of all admissions—grouped as follows: (Their total number being so near one hundred, gives simultaneously each group its almost precise percentage).

Acute physiological intoxication.....	2	
Pathological intoxication	4	
Delirium tremens	8	
Acute alcoholic hallucinosis.....	36	(27%)
Chronic alcoholic hallucinosis	17	

*Read at meeting of Alienists and Neurologists, Chicago, July 12, 1915.

Chronic alcoholic dementia 12
Alcoholic paranoia 23 (24%)
Korssakow psychosis 3
Chronic alcoholism (Inebriates)..... 2

Total 97

The chronic alcoholic hallucinatory group is not provided for in the hand book used in the State Hospital service, but experience shows that there is undoubtedly a form of chronic hallucinosis produced by alcoholism, and I have given each case careful consideration in separating it from the acute hallucinatory group. There is also some difficulty in distinguishing the alcoholic paranoiac state as alcoholic hallucinations are essentially of a persecutory nature and may give rise to all the superficial evidences of a paranoia. In fact, a development of one into the other seems to occur quite frequently.

Another debatable point is the development of a dementia praecox attitude in the evolution of an acute hallucinosis into chronic hallucinosis. The condition at a certain level becomes stationary. There is some loss of initiative but complaint at detention, more or less delusional formation of a mildly persecutory sort and sometimes of an expansive nature. Hallucinosis is more scattered, sometimes pleasant rather than threatening and there is a frequency of somatic sensations of "electricity," "cold breezes" or "warm currents," "x-ray," "mind-reading," and so forth. On casual acquaintance the stream of thought and speech is connected, the attention appears good, but let the stream of mental activity lapse into its accustomed channels and the loosely formed associations with their mild hallucinatory prompters become apparent. In studying family histories, one discovers that there is frequently a history of alcoholism in the parents of these dementia praecox-like alcoholics or the early history of the individuals shows backwardness, if not actual defectiveness. With two cases I have in mind, alcohol seems to incite a maniacal reaction which does not subside for several weeks.

One hundred three cases of *general paralysis of insane* out of 460 consecutive male cases admitted. Percentage 22.3. Showing relation of alcoholic habits in patients and ancestors:

	Family histories without definite statement concerning alcoholism; or unobtainable.	Family histories negative.	One or both parents moderate drinkers (mother in one case only).	One or both parents excessive drinkers.	Total.
Patient's history not definite concerning alcoholism; or unobtainable	20	1	..	1	22
Patient's history negative	14	7	2	3	26
Moderate drinker	28	4	3	1	36
Heavy drinker	8	1	1	1	11
Drank when younger...	5	..	..	..	5
Drinking increased lately	2	..	..	1	3
Total	77	13	6	7	103

In the alcoholic paranoiac group we have to do with individuals of a more active, suspicious and excitable nature. Having suffered one or more attacks of acute alcoholic mental disturbance, or shown irritability, selfishness or erratic conduct throughout their previous history, one finds them, locked in a state hospital, impatient at their incarceration, usually entertaining suspicion of their wives' fidelity, the chastity of their daughters or the honesty of their sons. Or, they may feel plotted against by other relatives, lodges, political organizations, or others. There is more or less fixity of delusions with mild systematization and little tendency toward character change found in the true paranoiac.

Though popularly familiar, the case of delirium tremens seems to find shelter and care outside the Chicago State Hospital. They constitute but 8 per cent. of alcoholics admitted and 1.7 per cent. of the total in this series. One might venture to say that there are individuals outside who have suffered eight distinct attacks in the time covered by the admissions. As there were, in addition, only two cases of acute physiological intoxication and four of pathological intoxication and two chronic alcoholics or inebriates of the ordinary type, we can readily see that the cases included are an irreducible minimum. As readily seen by the figures presented the acute and chronic hallucinosis and paranoiac types make up the bulk of cases coming to a state hospital. There is a sound logic behind this situation. Though the delirium tremens case is furiously active and often self-destroying in his madness, he is usually too confused to achieve more than accidental violence to self or others, soon becomes exhausted, and if he survives tends to recover rapidly. The acute hallucinosis victim suffers frequently the prolonged onslaught of terrifying and threatening voices and being entirely clear as to orientation can work out a reaction frequently through suicidal or

homicidal attempts. Prolonged observation and hospital care is, therefore, necessary. Likewise the alcoholic paranoiac state, which seems to slumber lightly under all of the acute disturbances occurring in a chronic indulger, may develop into florid form without these acute premonitory attacks and is liable to cause its victim to accomplish wholesale destruction of family and self through his insane jealousy. When one records the history of a typical irritable married alcoholic, it is to marvel at the endurance of wife and children who, besides neglect, insult and injury, have faced death many times when the husband and father in his drunken sprees exhibited the passion and murderous tendencies attempts while suffering from threatening hallucinations. But in the anamnesis obtained from the wife she distinctly stated he had never offered injury to her; in fact, always protected her, contrary to the statement she had made at time of commitment, we afterward learned, that he had threatened her life with a gun. In en apparently quiescent state and while allowed to work about the hospital and walk out on the grounds by his wife's consent he visited her home and, having imbibed before reaching there, was in an insanely jealous and murderous mood upon his arrival and a tragedy occurred which has produced criticism unjustly stigmatizing the "kindness first" method in the care of the insane

Classification of 97 cases of alcoholism occurring in 460 consecutive male cases admitted. Percentage 21:

	Civil State		Pct.	Alcoholism in parents: Father Mod.	Father Exc.	Mother Mod.	Mother Exc.	Insanity in parents: Fa.	Mo.	Alcoholism in brothers and sisters	Insanity in brothers and sisters
Acute physiological intoxication	S.	2	2	1	..	1	..	..	..	..	..
	M.	..		..	..	..	..	..	..	..	..
Pathological intoxication	S.	1	4	..	..	..	..	..	1	..	..
	M.	3		..	2	..	..	..	..	..	..
Delirium tremens	S.	1	8	..	..	..	..	..	..	..	..
	M.	7		2	..	..	..	..	..	1	..
Acute alcoholic hallucinosis	S.	15	27	1	2	..	..	..	..	..	..
	M.	11		2	2	..	..	..	..	1	1
Chronic alcoholic hallucinosis	S.	6	17	..	..	..	..	..	..	..	..
	M.	11		1	4	..	..	..	1	3	..
Chronic alcoholic dementia	S.	5	12	2	..	..	..	..	..	..	..
	M.	7		1	..	..	..	..	..	1	1
Alcoholic paranoic state	S.	3	24	..	..	..	..	..	..	..	..
	M.	20		..	4	1	..	1	1	3	1
Korrsakow psychosis	S.	2	3	1	..	..	..	..	..	..	..
	M.	1		..	..	..	..	..	..	..	..
Chronic alcoholism (inebriates)	S.	..	2	..	..	..	..	..	..	1	..
	M.	2		1	..	..	..	..	..	..	..
Total		97		12	14	2	..	1	3	10	3

that later were to become fixed modes of reaction and place him beyond the pale of free human associations luckily before his otherwise almost inevitable destiny had been accomplished. How many of these assassinations and subsequent suicides occur yearly it is impossible for me to say. Each occurrence of this kind always stimulates speculation along this line. I believe a large percentage of these cases can justly be added to swell the number of actual or potential alcoholic insanities. Dr. Charles F. Read, in a brilliant essay, presented before this body last year sketches of the histories of two so-called chronic alcoholics who first came into my care and are included in this series. One had been paroled at that time, but subsequently was returned to the hospital. He had made suicidal as a puerile policy. The prediction was made last year that some day his might become a murderer's hand, but so is this prediction made in practically every case of alcoholic insanity coming into our care and it can be made of any and all cases of chronic indulgence where excesses are liable to occur or a pathological reaction of violence has once been noted. The great problem is how to house and occupy such cases in a hospital for the insane where the average patient is harmless and whose detention is accomplished usually by the most flimsy safeguards. For no criminal ever chafed behind bars as the alcoholic of irritable type chafes within hospital walls and no honor system can be instituted, for with the usual deterioration in their judgment fields comes the inevitable feeling of self-suffi-

ciency and the attitude of being sinned against and of never sinning.

In all the chronic classes of alcoholics we find a few patients where the evidences of arterial and organic breakdown, showing the effects of disturbed body metabolism, indirectly if not directly, due to the alcohol imbibed so freely in past years, frequently bring them into the organic brain disease group, or, the effects on the spinal axis have been such as to produce pictures of combined sclerosis or spastic paraplegia. Three of this series have late epilepsies of apparently clean-cut alcoholic etiology. They all show moderate degrees of dementia.

There are other cases where the prolonged use of alcohol seems to have produced a marked intolerance or susceptibility until the patient has been forced to abstain perhaps after years of indulgence. Following in the wake of this condition, after a few months or years there seems to be a new development or recrudescence of hallucinatory anxiety states accompanied by much agitation and many complaints of somatic change, a self-accusatory trend in the delusional ideas and a feeling of impending doom. Aside from the danger of suicide and intercurrent infections, these cases do not terminate rapidly. They are well oriented to person and place and their hallucinations are of a depressing, threatening nature. One is forced to the conclusion that the involutional changes going on in the organism have lighted up this train of symptoms which are a mixture of the mechanisms of both toxic and involutional psychoses working in conjunction. In the statistics compiled in connection with this paper, these latter cases are grouped under different headings other than alcoholic, such as anxiety psychoses, involutional melancholia, mixed manic depressive and pre-senile as it is difficult to carry a diagnosis of a combined psychosis through the usual staff meeting in a state hospital without occasioning a definite split in opinion which usually lands the diagnosis on one side or the other or in the "unclassified" group.

Status of alcoholics, June 1st, 1915 (admissions ending Dec. 31, 1914:

	In hospital June 1, 1915	Paroled	Escape.	Discharged: Recovered.	Improved.	Unimproved.	Dead.
Acute physiological intoxucinosis.	..	..	..	..	..	..	..
Pathological intox.	..	..	..	4	..	..	..
Delirium tremens	..	..	..	7	1	..	..
Acute alcoholic hall	2	..	1	18	5	..	..
Chronic alcoholic hall	11	..	1	..	2	2	1
Chronic alcoholic dementia	9	..	..	..	2	..	1
Alcoholic paranoiac state	13	2	1	..	1	6	..
Korssakow psychosis	1	..	1	1	..	..	..
Chronic alcoholism (inebriates)	..	..	..	..	2	..	..
Totals	36	2	4	32	13	8	2

Among the males I have found the frank cases of Korssakow syndrome to be very scarce. However, there is a small group of individuals who show the peculiar disorientation and matter-of-fact fabrication tendency without complete loss of deep reflexes and but little tenderness of extremities. The majority of these cases improve considerably or clear up entirely to all practical purposes and resume simple occupations. One case now enjoying recovery had his attack apparently precipitated by drinking a glass of benzene by mistake. An hour or so following this he seemed profoundly narcotized and it was after a delay of several hours he received a stomach washing and stimulation and regained consciousness. He was a constant tippler, though never excessive, and his mental symptoms came to a climax several weeks after the above mentioned occurrence and necessitated hospital care. His recovery was quite gradual. There was never a disturbance of mood or any hallucinations.

The popular belief that head injury causes insanity finds support when we find that many alcoholic cases date their acute onset of mental attacks or intolerance to alcohol after a severe cranial insult or concussion. Cranial traumas are not alone responsible, however. Severe injuries to other parts of the body with consequent shock seem occasionally to set up a similar train of consequences. In the case of the patient, who killed his wife, the original examination showed that all his acute attacks occured after a severe injury from a fall suffered while carrying on his occupation as a stage carpenter. Insolation seems also to predispose to a small percentage of cases. Twenty per cent of all alcoholics gave such well authenticated histories of injury or other shock. Three-fourths of these were cerebral concussions or skull fractures. When we find delirium tremens following various shocks so easily, is it to be wondered at that the more severe and chronic alcoholic psychoses can thus be ushered in when conditions are ripe?

As to the early mental status of alcoholics,

it is difficult to arrive at a precisely correct estimate. From wives who gave histories of men now up in the fifth or sixth decades there are frequent descriptions of irritability, quarrelsomeness, selfishness, jealousy, etc., for years before commitment was necessary, characteristics mostly acquired. In a comparatively small number there was a history of mental defectiveness of one form or another, and these naturally almost entirely among the younger patients. One constitutional inferior, a sexual exhibitionist upon occasion, port must necessarily be an incomplete one in this respect; for unless the children of these parents were examined, no true estimate of the extent of mental and physical deficiencies could be made. Again it may be years until a potential weakness in the child becomes an actual breakdown as the records in the majority of our insane cases go to show. We have, therefore, to proceed inversely and rely upon the histories of all classes of patients as to habits of their parents and other ancestors to reach any fairly definite knowledge of

Tabulation of all Psychoses other than alcoholic and general paralysis of the insane:

	Total.	Pct. of whole series.	Fam. and per. hist. indef. (some unobtainable).	Fam. and per. hist. neg.	Fam. hist. indef. or neg. Patients' habits.		Fam. hist. positive. Patients' habits.		Patient's hist. neg. Fam. hist. pos.	Patients—mod. users.	Pct. of psychosis group.	Patients—excess. users.	Pct. of psychosis group.	Number with alcoholic ancestors.			
					Mod.	Exc.	Mod	Exc.						Mod.	Pct.	Exc.	Pct.
Dementia præcox—																	
Hebephrenic	80	*17*	27	24	12	1	5	2	9	17	*21*	3	*3.7*	9	*11*	7	*9*
Katatonic	14	*3*	8	..	1	..	..	..	4	1	7	..	..	2	*14*	2	14
Paranoid	28	6	8	7	4	1	6	..	2	10	*36*	1	*3.5*	4	*14*	4	*14*
Undifferentiated	2	..	..	..	..	..	..	..	2	..	..	..	..	2	*100*	..	..
Allied states	2	..	1	1	..	..	..	..	1	..	..	..	..	..	..	1	*50*
Total, 122—29 per cent.										28	22	4	*3.1*	17	*13*	14	*11*
Manic-depressive—																	
Mania	17	*3.6*	5	6	1	1	2	..	2	3	*18*	1	*5.8*	4	*23*	..	..
Mixed states	2	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Depressed	7	..	2	2	..	2	1	..	..	1	*14*	..	..	..	..	1	*14*
Allied states	6	..	2	1	2	1	..	..	..	2	*33*	1	*17*	..	..	..	..
Total, 32—7 per cent.										6	*19*	2	*62*	4	*13*	1	*3.1*
Anxiety psychoses	3	..	..	..	..	2	1	..	..	1	*33*	2	*66*	1	*33*	..	..
Other depresions	2	..	..	..	2	..	..	..	..	2	*100*	..	..	..	..	..	..
Paranoiac states	6	..	3	2	1	..	..	..	..	1	*16*	..	..	..	..	..	..
Epileptic states (Idiopathic)	17	*3.6*	4	3	3	..	3	1	4	6	*35*	1	6	4	*23*	4	*23*
Psychopathic personality	1	..	..	..	..	..	1	..	..	1	*100*	..	..	..	..	1	*100*
Mental defective—																	
Constitutional inferior	4	..	1	1	1	..	..	..	1	1	*25*	..	..	1	*25*	..	..
Imbecile	8	..	..	3	1	..	1	..	2	3	*37*	..	..	1	*12*	2	*25*
Idiot	7	..	2	2	..	..	2	..	1	2	*30*	..	..	..	..	3	*43*
Infective—exhaustive and allied states	7	..	1	2	1	1	..	1	2	1	*14*	2	*28*	2	*28*	1	*14*
Intoxication psychoses (excluding alcoholic)—Drugs	3	...	2	..	..	1	..	..	..	..	..	1	*33*	..	..	..	..
Psychoses with organic brain disease (excluding general paralysis)—																	
Presenile	4	..	1	..	2	..	1	..	..	3	75	1	*17*	..	..	1	*25*
Senile	6	..	1	4	..	1	..	..	..	..	..	3	*33*	2	*22*	..	..
Trauma (with acute confusion)	1	..	..	..	1	..	..	..	..	1	*100*	..	..	..	..	..	..
Undifferentiated	9	2	..	6	..	1	..	2	..	..	..	..	..	..	..	..	..
Unclassified	24	5	8	7	5	1	1	1	1	6	*25*	2	*8.3*	3	*12*	..	..
Total	260	..	77	72	37	13	24	7	31	62	..	18	..	35	..	26	..

ascribed all his worst behavior to the influence of liquor. In contradistinction there are many statements that the patient was bright as a young boy and youth, was a good worker, and gradually through environmental influences and the slow action of alcohol itself, lost his grip.

One of the important aspects of the alcoholic problem is the possibility of transmission of degeneracy to offspring. Nearly 65 per cent. of the alcoholic cases were married men, but this re- the influence of parental alcoholism on offspring. In this series, as there was no selected material, there will be a considerable underestimate of alcoholic conditions among ancestors. No histories whatever could be obtained for some cases and at other times in the hurry of routine history taking many finer points were naturally neglected. Misstatements also undoubtedly occurred when the parents themselves were the informants and were depended upon to answer direct questions con-

cerning themselves or were relied upon, in a measure, to give information spontaneously. As a minimum, therefore, among the alcoholics we have 12 per cent. of whose fathers were moderate users, 14 per cent. with fathers excessive indulgers, and only two cases with mothers drinking and these moderately. There were but one insane father and three insane mothers. Alcoholism occurred in 10 per cent of cases in the patients' brothers and sisters, sometimes almost the whole family being addicted. Only three alcoholic patients had insanity occurring in brothers and sisters.

In regard to associaton of alcoholism with other psychoses, I found that 22 per cent. of dementia praecox cases had been moderate drinkers and 3.1 per cent. excessive. The manic depressives and allied states showed 19 per cent. moderate and 6.2 per cent. excessive; the epileptics 35 per cent. moderate and 6 per cent. excessive. In two cases of anxiety psychosis each had been excessive or constant indulgers. As to heredity, the dementia præcox group gave 13 and 11 per cent., respectively, of moderate and excessive alcoholic ancestors. Total 24 per cent. alcoholic ancestors. Of the manic depressives 12 per cent. had moderate ancestors and 3.1 per cent ancestors who indulged excessively. Only one of six paranoiacs had indulged, and moderately, and all their family histories were negative for alcoholism.

There is one curious fact to be noted that not one of the dementia praecox cases with any recorded history of alcoholism in the ancestors was married. There is always a great preponderance of the single among dementia praecox admissions, especially among the males. This one fact points out nature's automatic attempts at stamping out insanity. Though the total dementia praecox patients exceeded the total alcoholic, the percentage of married alcoholics 65 per cent. is vastly greater. Forty-eight victims of alcoholic psychosis had 181 living children, an average of nearly four apiece. What percentage of these are already handicapped? What percentage of dead children would be surviving if they had not been blighted by inherited degeneracy, or environment at birth? The number of dead children in some families runs as high as eight. The number of degenerates, delinquents and feeble-minded among the living are not inconsiderable in my findings, but as it is possible to obtain more accurate figures from the work of other investigators, no statistics will be given here. Compared to the dementia praecox, the alcoholic is exceedingly prolific and the recruits for the ranks of the insane and the other broken reeds of humanity will come in like proportion from his descendants. Experiments have shown that the sperm cells of various animals have become intoxicated shortly after the ingestion of alcohol and the products of conception under these conditions have been demonstrated to be abnormal. I have taken histories from mothers who have declared that conception under these circumstances caused the frailties and insanities of their children and one cannot doubt it. The influence of alcohol in stimulating sexual appetite is a predisposing factor. When alcohol works in conjunction with already existing mental defect or insanity, the result is most unfortunate for rarely do the offspring escape some form of mental alienation or mental or physical deficency.

This paper would not be complete without including a report on the other great group of cases which falls to the lot of a metropolitan mental hospital—the "para-syphilitic" disorders. There were 103 cases of general paralysis and other post-luetic diseases. The figures which I have compiled cannot show all the relations that alcohol has to the acquirement and development of these afflictions. Vice and intemperance are closely associated. There were undoubted instances of aggravation of syphilitic and parasyphilitic conditions through alcoholic indulgence. Occasionally the spontaneous testimony we got described constant and perhaps increased drinking in the patient and apparently no other trouble suggested until physical examination and spinal puncture disclosed the underlying condition. But so many striking exceptions occur to these accounts that it is not right to believe there is any necessary exclusive causal connection between alcohol and syphilis in producing general paralysis of the insane. There were 26 (25 per cent.) cases where histories were indefinite—more than likely practically negative. Among the 26 negative patients' histories, there were 7 negative family histories. Fourteen family histories gave no definite statement, but were probably mostly negative. Thirty-six patients were moderate drinkers and 11 heavy drinkers, but

only one of each of these groups had a family history of parents indulging excessively. Thirteen cases had definitely negative family histories. One heavy indulger had a distinct case of alcoholic hallucinosis in addition to paresis and left the hospital much improved as to alcoholic symptoms.

In conclusion I feel that the data I have presented have all been too conservative. The ramifications of alcoholism can only be estimated and moreover are too complex to comprehend through the medium of tabulated statistics. I have refrained from inserting case histories, but the clinical libraries of state hospitals are piling up an enormous weight of evidence against this ancient enemy of men and nations. From the victories achieved by public hygiene over the scourges of smallpox, typhoid fever and tuberculosis, I feel it should be but a few short steps to the efficient control of alcoholism. Some cataclysm equal to the European war may be necessary to loosen the last hold of the commercialized aspect of it. This war has subjected alcholism to a stupendous test in the strain on national efficiency and it has been found wanting. This only demonstrates again what private corporations discovered several decades ago. If it is personal liberty we cherish, we can forego at least this much of it to set our weaker brother and his children free and lessen our own burdens as his keeper.

BACTERIOLOGY OF THE PRESENT SO-CALLED GRIP EPIDEMIC.*

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In the latter part of December the presence of epidemic conditions became evident. The bacteriologic findings that I have to report are of a general character in so far that I have had no special group of individuals under observation. In a pandemic such as we have now experienced it is usual to see all the pathogenic organisms of the respiratory tract increased in activity and virulence, and if some special group of individuals is examined bacteriologically the predominating organisms may be quite different from those found in other groups of cases.

A tabulation of examinations made at the Columbus Medical Laboratory during December shows the occurrence of sputum organisms in the following percentages, other than tuberculosis and diphtheria:

Organism	Sputums Per cent	Culture Per cent
Staphylococci	75	80
Streptococci	87	60
Pneumococci	57	25
B. influenzæ	29	10
M. catharrhalis	45	20
B. of Friedlander	20	—
Others	12	10

By these percentages I mean to interpret that in all examinations the bacterium indicated was present in sufficient numbers to be noticeable to the percentage given. It is impossible for me to make the tabulation to show the predominating organism, as this was not in most cases the purpose of the examination. Some of those specimens were for vaccines and in these cultural tests were made. My findings would indicate that the present epidemic started as a mixed pus coccus infection, with very soon an increase in pneumococcus and Micrococcus catarrhalis infections. That there has been some increase in influenza cases is shown by finding this bacterium in 29 per cent. of the examinations. In only a few instances have we separated the staphylococcus or streptococcus strains for vaccine purposes, and there are not enough of these to show special prevalence or activity of the various types of these bacteria.

What I have especially noted in examinations during this epidemic is the great frequency of pneumococci covering epithelial cells and associated with clumps of Micrococcus catarrhalis. It is not infrequent to see Bacillus influenzæ and Micrococcus catarrhalis in close association in clumps in the sputum at other than epidemic times, but I have noted recently in perfectly fresh sputum this over-growth of pneumococci in association with Micrococcus catarrhalis, the pneumococci covering the epithelial cells and the Micrococcus catarrhalis in long groups in the mucus between the cells.

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I would further like to call attention to the difficulty of making a differentiation of the influenza bacillus in a microscopic examination of the sputum. It is especially desirable to make such examinations on the freshest possible specimens because even a few hours may allow other organisms to overgrow. The association of Bacillus influenzæ with clumps of Micrococcus catarrhalis is also to be remembered and they are, at times, found almost hidden in a group of these larger cells. At times also they are almost entirely within leucocytes and it may not be easy to see them if the leucocytes and pus cells are overstained and apparently full of granules. The usual sputum bacteria, pus cocci, pneumococci, Micrococcus catarrhalis, Friedlander's bacillus, are large and so plain that a search over an evenly spread slide will show their presence or the predominance of one or more of the varieties. The influenza bacillus may be also lost in older sputum if there is thick mucus and partially disintegrated cells, thereby clouding the true appearance seen in fresh sputum. The influenza bacillus is very delicate and small and stains so poorly by the methylene blue that it is not as promptly recognized as the other sputum bacterial flora. It is our practice to always stain one slide that has not been treated with nitric acid in the course of ordinary tubercle bacillus examinations so that the other bacteria may be seen as little disturbed as possible. Should there be doubt as to suspicious organisms that might be noticed it is well to stain a slide directly with diluted carbol fuchsin, because with this stain the influenza bacillus can be much more plainly brought to view and differentiated than with the methylene blue stain. The characteristic minute dumb-bell cells stand out clearly when the fuchsin stain is used. If it is at all possible, both direct staining of the sputum and cultures from the sputum should be made, because the more active varieties will be shown in the cultures. When we wish to study the bacteria fully in a specimen we use blood serum, blood agar and agar in such a way as to show colony growth.

For routine diagnosis the direct staining of the sputum in the early stages of the infection should be sufficient to show the presence or absence of the influenza bacillus in practically all suspicious cases.

HYDROTHERAPY IN CARDIO-VASCULAR DISORDERS.*

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When your secretary a few days ago kindly honored me with an invitation to present a paper in your program this evening I chose as my subject the practical application of hydrotherapy in disorders of the heart and blood vessels; first because of the recognized inadequacy of current methods in the treatment of this rapidly increasing class of ailments, and second, because of the very general neglect to make use of the resources of hydrotherapy in dealing with cardiac disorders, notwithstanding the overwhelming mass of laboratory and clinical evidence accumulated in the last quarter of a century establishing beyond room for question the efficiency of appropriate hydriatic procedures in this class of cases. One reason perhaps for the general lack of appreciation of the value of hydriatic methods is unfamiliarity with the technic of more than a few procedures, and frequent disappointment in the results obtained from the use of the Nauheim bath or some other single measure.

In the brief time necessarily allotted me for this paper I shall not attempt to discuss the pathology or pathogeny of the various morbid conditions of the heart and blood vessels, nor of the secondary morbid conditions which develop as the result of cardio-vascular disease, but will confine myself to such points as have a direct bearing upon their clinical management.

For success with hydriatic methods so much depends upon precision in technic that it is absolutely necessary to be able to command the services of a nurse well trained in hydriatic methods, and there must be a thorough appreciation on the part of both nurse and physician of the fact that hydriatic applications are two-edged swords. They are indeed formidable weapons, which, if properly directed against diseased conditions, win brilliant victories, but if misdirected may lead to most disastrous and even rapidly fatal results. Lately I received a letter from a physician who was much surprised because a patient suffering from dropsy due to cardiac insufficiency, to whom he had given a vigorous sweating bath, began to suffer greatly

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from dyspnea during the bath and grew rapidly worse and a few hours later died. The patient's life was evidently cut short by the depressing effect upon his heart of the hot bath. Several similar cases which have come to my knowledge indicated the necessity for a clear understanding of the principles which underlie the hydro-therapeutics of cardio-vascular disease. One of the special merits of the hydriatic method is its marvelous versatility and adaptability to the most diversified morbid conditions. As already intimated, it must not be supposed, however, that hydrotherapy is a method which will do no harm if it does no good.

The hydro-therapeutics of cardio-vascular disease rest largely upon the fundamental fact that the heart is a muscle, and as such is influenced by the same agencies which modify functional activities of other muscles. One of the most clearly established principles of hydrotherapy is that by suitable hydriatic applications made to the skin reflexly related muscles may be powerfully influenced. Cold increases to a marked degree tonicity, excitability, contractility, and consequently, efficiency. These facts are clearly evidenced not only by laboratory observations but by common experience. Exposure to cold raises the tonicity of the muscles to such a point that the whole muscular system may be thrown into clonic contractions—the phenomena of shivering. In swimmers, when the temperature of the water happens to be low the excitability and contractility of the muscles may be increased to such a degree as to produce clonic spasm or cramp. Carefully conducted observations made with the sphygmograph, sphygmomanometer, electrocardiograph, and the roentgen ray show that the reactions of the heart muscle to cold applications are the same as those of other muscles.

The functions of the heart, as defined by Gaskell and Engellmann are excitability, contractility, tonicity, rhythmicity, and conductivity. It is fair to infer that all of these functions may be augmented by suitable cold applications; on the other hand, it has been clearly established by abundant evidence that prolonged hot applications depress all the functions of the muscular tissue, sufficiently explaining the depressing influence of heat upon the heart.

The chief factors concerned in blood pressure, as observed in health, are:

1. The cardiac energy, by which blood is being continually forced into the arterial reservoir.

2. The vessel tonus, by which the outlets of the vascular reserviors are controlled.

3. The peripheral heart, that is, the rhythmical activity of the arterioles and capillaries.

4. The blood volume, whereby the ventricles are distended and stimulated to contraction.

5. The elasticity of the arterial walls and of the tissues.

6. The viscosity of the blood.

Hydrotherapy renders substantial benefit in cardio-vascular disease:

1. By increasing cardiac efficiency through augmenting its several functions.

2. By improving the nutrition of the heart, thus increasing its reserve and normal working efficiency.

3. By lessening vascular resistance to dilatation of the vessels, hence lowering abnormal high blood pressure.

4. By restoring the tone of the heart and vessels in cases of hypotension.

5. By aiding in the restoration of lost compensation.

6. By lessening the viscosity of the blood.

7. By increasing or diminishing the volume of the blood.

8. By clearing the blood of toxins.

The heart and vessels must be considered as one organ, the vessels being simply ramifying branches of the heart. The accelerator nerves of the heart and the vaso-constrictors have a common origin in the central nervous system as also do the vagus and the vaso-dilators. It naturally follows that those measures which affect the heart affect the vessels in a similar way.

In the practical management of cardio-vascular disorders it is convenient to group them as Bishop has done into three classes: high pressure, low pressure and secondary low pressure, remembering that there are border liners and intermediate forms of all grades.

In high pressure cases hydrotherapy affords the most convenient and efficient means for lowering pressure by lessening the work of the heart. It is reasonable to suppose that the blood pressure is never higher than it needs to be, that

is, that the rise of pressure is a defensive process and that the only rational methods of dissipating or mitigating this symptom must be those which are addressed to its cause.

Simple cardiac hypertrophy in itself does not increase the pressure in the vessels. In healthy athletes with very large hearts, when at rest, the tension, according to Gibson, is not abnormally high, and may be even found a little below normal.

In arteriosclerosis the narrowing and withering of the arterial twigs as the result of the degenerative process threaten the tissues with starvation. The heart must work with sufficient energy to maintain the pressure at such a point that an adequate supply of blood will be forced through the narrowed blood channels in order to sustain the integrity of the tissues and their functions. The thing to be done then is not to lessen the energy or activity of the heart, but to lessen the resistance against which it works. In other words, the evident indications are: 1. To stop the degenerative process. 2. To dilate the contracted vessels. 3. To lessen the viscosity of the blood.

Since the most common and potent cause of vessel changes is now known to be the circulation of noxious substances in the blood stream, it is evident that improved elimination must be an essential factor in the therapeutic scheme. Copious water drinking is one of the most effective means of accomplishing this. When renal permeability to water is good, two to four quarts of water may be taken daily. The patient should be asked to note and report the amount of water taken and measure the daily output of urine. If the patient is not taking sweating baths or otherwise perspiring freely, the amount of urine should equal the water intake. Food supplies sufficient water to balance the insensible perspiration. On inquiry it will be found that most patients take little water and the scanty, highly concentrated urine is a clear indication of the unclean state of the blood and the tissue fluids. The rinsing out of the tissues accomplished by free and systematic water drinking soon shows beneficial effects in the improvement of the skin color and in the urinary findings.

The best means for relaxing the contracted vessels are the following:

1. Baths of all sorts at a temperature of 92° to 98°, accompanied by rubbing to maintain the surface circulation. The duration of the bath may be fifteen to forty minutes. The shallow bath and rubbing sitz bath at 78° to 85° are excellent measures. Duration being one to three minutes for the shallow bath, and two to four minutes for the sitz bath. The neutral fan douche (92° to 96°), the neutral spray, rain douche, and the needle bath (88° to 96°), applied for one to three minutes are measures of value dilating the peripheral vessels.

A characteristic of the majority of these cases is the pronounced evidence of degeneration of the skin structures. The skin, as may be easily seen by examining the back of the hands, has lost its normal elasticity, suppleness and freshness of color and is often thin, glossy, and inelastic. When pinched it does not instantly flatten out, but remains ridged for several seconds. In ante-bellum days this test was applied by purchasers of slaves, and when this condition of the skin was found present, the buyer refused to invest, remarking, "too old for any use." Brown spots upon the back of the hands and a varnished or wrinkled appearance are superficial evidence of the degenerative changes which are taking place in the vessels and probably in other internal structures. Such a skin has little vascularity. The result is that the internal vessels are overfilled because this great vascular area which is capable of holding two-thirds of all the blood in the body, is nearly bloodless. The splanchnic vessels in particular are greatly distended and degeneration of these vessels is encouraged. It is evident then, that measures which will improve the circulation of the skin must render valuable service in lessening cardiac work and so postpone the evil day when the heart must fail to do its work because of the exhaustion of its reserve power. The improvement in the skin functions which may be secured by prolonged skin training is very striking. Not infrequently it is at first impossible to induce perspiration in these cases, but after two or three weeks the degenerated sweat glands begin to resume activity and by perserving effort the skin may be in many cases improved to a really wonderful degree. The glossy pallor disappears, together with the pigmentation and the skin acquires to a large degree its normal color and suppleness. Sun baths by "tanning" the skin render service in connection with short cold baths,

producing a superficial hyperemia which lasts for several months. The same effects may be secured by means of the electric light bath, the arc light or the mercury vapor light.

In general, hydrotherapy and the adjuvant measures employed in connection with it proves itself highly efficient, in accomplishing two things in high pressure cases:

1. Lessening the work of the heart, by relaxing the spastic vessels.

2. Improving the quality of the blood through better elimination and oxidation of tissue poisons and other toxic substances.

In pressure cases in which extensive vessel changes have not taken place and which are not seriously complicated by renal disease, the pressure usually falls at a most gratifying rate under the influence of prolonged tepid baths followed by short, cool applications. A fall of twenty millimeters may often be observed as a result of an electric light bath or some other form of sweating bath. In cases of arteriosclerosis of the splanchnic vessels or generalized degeneration of the vessels, the improvement which can be secured by hydriatic methods will not be so marked nor so great, but nevertheless results in the great majority of cases are so good as to afford satisfaction to both patient and physician and render the patient a distinct service, allowing him a few more months or even years of useful and comfortable life.

3. Partial cold rubbings, such as a brief cold towel rub, or a mitten friction with water at 65 to 75 degrees may be utilized to great advantage if care is taken to avoid chilling the patient. It is well to apply a hot bag to the spine or feet during this application, to prevent chilling. All the above hydriatic applications may be repeated two or three times a day with advantage.

4. The wet girdle and heating packs of the legs, worn at night, are measures of value in combating degeneration of the splanchnic vessels. The wet sheet pack, preceded by vigorous friction of the skin, and followed by a cold mitten friction or a salt glow is also a measure of very considerable value.

5. The partial electric light bath applied in succession to various parts of the body, and continued until the skin is thoroughly reddened, is one of the most effective of all means of dilating the surface vessels and clearing the tissues of waste products. The cabinet electric light bath may be employed in cases in which the pressure is not high and the vascular changes are still in an incipient state; the arc light bath may be employed in the same way to excellent advantage. The sun bath, used with caution and repeated daily until the skin is thoroughly tanned, is one of the most effective means of combating degenerative changes in the cutaneous vessels.

6. The sinusoidal electric bath, at a temperature of 94° to 88°, also baths at the same temperature combined with the faradic or galvanic electric currents are very serviceable in this class of cases.

Moderate hydriatic measures of nearly every sort improve metabolism and check the degenerative processes which give rise to high blood pressure.

The most significant triumphs of hydrotherapy are won in the treatment of advanced cases of arteriosclerosis in which the patient, after having passed through a period of very high blood pressure presents himself with a lower and lowering pressure and the characteristic symptoms of failing compensation: dusky skin, enlarged liver, gastric and intestinal disturbances, dyspnea, overexertion, loss of memory, scanty urine and indications of general functional failure. It is, of course, impossible to accomplish as much for these cases as the less advanced, but one may often have the satisfaction of seeing a patient who appears to be at the very door of death brought back to the enjoyment of fair health and given a number of months, perhaps even several years, of comfortable and fairly active life.

The first symptom of improvement in the above mentioned cases is a rise of blood pressure, the patient, usually showing a systolic pressure of 180 to 200, and he is alarmed when he finds his pressure going up to 200 or 225, but his alarm ceases when he discovers that with the rise of pressure, his dyspnea and other discomforts are disappearing; later the pressure falls if he remains under treatment.

The management of cases of this sort requires constant care and close attention to every detail of treatment. To say to such a patient: take Nauheim baths, or take hot baths or cold baths, without most minute directions as to temperature, frequency or duration of the bath is to expose

him to almost certain injury; by cautious management the improvement which may be secured even in unpromising cases is often highly gratifying. Hot baths must be scrupulously avoided. Heat depresses the heart and thus still further decreases its efficiency. By careful cold applications and cautious use of the cooling coil over the heart, employing temperatures of 80° to 70°, the vascularity of the skin may be improved and the tone of the heart and vessels increased. Soon one may have the satisfaction of seeing the swelling disappear from the limbs as well as the dusky hue of the face and the livid appearance of the lips, also dyspnea and other distressing symptoms. Partial sweating baths may be applied in almost every case with benefit, care having been taken to protect the heart by making a simultaneous cold application over the precordial region. By protecting the heart in this way it is possible in many cases to induce general perspiration by applying the electric light to the lower half of the body. After a few weeks the pressure begins a slow but steady decline. The point to which the pressure may be reduced depends, of course, upon the degree of damage which the vessels have sustained. Of special importance in these cases is the change which may be accomplished in the viscosity of the blood. The carefully conducted experiments of Burton-Optiz demonstrated the fact that warm and tepid baths markedly lessen the viscosity of the blood. For example:

A bath at 23° C. (73.4° F.) lowered the viscosity coefficient from K836 to K760 in fifteen minutes; that is, increased the viscosity of the blood 10 per cent. A bath of 42° to 43.5° C. (107.6° to 110.3° F.) raised the coefficient from K1027 to K1126 in fifteen minutes; that is, diminished the viscosity of the blood 10 per cent. in the time named.

It is thus evident that by judicious use of the warm bath the benefit sought through the use of iodide or potash may be secured without imposing upon the already over-worked and damaged kidneys of the patient the additional task of eliminating a drug. It should be remembered also that the bath may be repeated an indefinite number of times without any injurious effect upon the body, whereas the continuous use of iodide of potash sooner or later results in iodism and various pathological changes more or less grave in character.

The warm bath lowers blood pressure by dilating the surface vessels, inhibiting the vasomotor centers, and lessening the viscosity of the blood and diminishing the effort required to force the blood from the arterial reservoir through the arterioles into the venous system of low pressure reservoirs.

HYDRIATIC MEASURES ADAPTED TO CASES OF SECONDARY LOW TENSION.

Every case of high tension due to degenerative changes either in the systemic vessels or in the vessels of the splanchnic area, sooner or later gives place to low pressure, due to exhaustion of cardiac energy. The enormous increase of cardiac work required to maintain the pressure in the arterial reservoir when the outlets are greatly reduced in number and capacity, sooner or later wears out the strongest heart. If the patient does not die of apoplexy or of some intercurrent malady, death will come in time from cardiac or renal failure. The treatment of these is entirely different from that which is appropriate in cases of primary low pressure, for although the pressure falls, the condition of the vessels remains the same. In primary low pressure the fall of pressure is due to dilatation of the anterioles, whereby the outflow from the arterial reservoir is increased; in secondary low pressure, the fault is at the other end of the circulatory system, namely, failure of cardiac energy.

There are two steps necessary in these cases. First, to dilate the superficial vessels; second, to energize the heart. The measures required for the second are the cold precordial compress or icebag placed over the heart, in the employment of which care should always be taken to precede the application by a measure of some sort whereby the peripheral vessels may be relaxed, and thus the work of the heart diminished.

The best means for relaxing the surface vessels in these cases are short, very hot mitten frictions or hot spongings, short, very hot fomentations to the spine; dry hand rubbing; short cold mitten frictions; hot foot bath accompanied by hot mitten friction or hand rubbings; gentle exercise; resistance movements; light massage; a very short electric light bath at a moderate tem-

perature, one to three minutes, with an ice-bag over the heart after the first half minute.

It is in this particular class of cases that the Nauheim baths are of great service. The temperature of the bath should generally be 88° to 92°. The moderate stimulation of the thermic nerves energizes the heart. The reaction which follows the cold application, especially when the bath is accomplished by rubbing, as it always should be, relaxes the surface vessels, and so lessens the work of the heart. The systematic use of this bath may greatly prolong the life of a person suffering from secondary low pressure.

In personal experience with the baths at Nauheim, the writer observed that patients were not rubbed sufficiently during the bath. Violent rubbing should be avoided, but gentle rubbing should be almost constant during the entire bath, to encourage the cutaneous circulation and thus enable the patient to tolerate a gradually lowered temperature whereby the energizing effect upon the heart and vessels is greatly increased.

By means of an x-ray examination of the chest atheroma of the aorta may be discovered long before degenerative changes can be otherwise discovered.

The greatest care should be used in these cases to avoid general cold baths, general hot baths, and abdominal compression.

The patient's life may be easily snuffed out by an injudicious hydriatic application. A severe general chilling of the surface is about as dangerous in such a case as a bullet through the body.

In cases in which the disorder is due to changes in the vessels of the splanchnic area, either with or without accompanying cardiac or renal disease, measures may be employed which will serve to dilate the portal vessels, lessening the resistance in the vascular system. The measures most useful for this purpose are the following: The protected wet girdle worn at night (care must be taken to wring the towel quite dry, to cover well with mackintosh, and to protect sufficiently to secure quick heating); the neutral sitz bath (92° to 98°, for fifteen to twenty minutes) twice daily; the Scotch douche to the back and abdomen and over the hepatic region. When the abdominal muscles are contracted, the application of the wet girdle may be preceded by a fomentation to the abdominal region for three to five minutes, and the neutral sitz bath may be preceded by a hot sitz, temperature 102° for one or two minutes. Taking care to keep the colon empty, by employing daily, if necessary, the enema or coloclyster at a temperature of 90 to 100 degrees. The effect of these applications will be to dilate the vessels of the splanchnic area. In extreme cases the legs may be utilized as a means of diverting blood from the general circulation by employing moist packs to the legs at night.

In treating cases of arteriosclerosis, the fact should be borne in mind that the condition of secondary hypotension may have begun, although the blood pressure is still much above normal.

Primary Low Pressure.—In the treatment of primary low pressure cases the problem is much simpler. These patients usually improve with great rapidity under the influence of general cold baths. The heart responds instantly to applications of cold to any part of the body. Cold, of course, does not add to the power of the heart, but it calls into play the *reserve kraft* of the organ, which Lewy has shown to be 13 times that of the usual energy output, that is, a heart which at rest does work equivalent to 72-foot tons in twenty-four hours is capable during violent exercise of doing work at the rate of nearly one thousand-foot tons in twenty-four hours. The low pressure heart has through some cause lost its reserve power.

The value of hydriatic applications in functional cardiac failure is well attested by the common practice of applying cold water to the face and chest in cases of syncope, and the universal resort to cold water internally and externally as a means of refreshment. The common practice of fanning the face to mitigate the depressing effects of heat is an analogous example. Even wild animals employ the cool bath for this purpose. Mr. Seton Thompson tells a charming story of a wild mustang that distanced a relay series of fleet horsemen for several days and nights continuous pursuit and which kept itself in fresh condition by shaping its course in broad circles which brought it at frequent intervals to the banks of a cool stream in the waters of which it bathed for a few moments and then flew on with redoubled speed.

Cold baths give the man with a weak heart the advantage enjoyed by the healthy athlete whose

heart during body rest works at lower pressure than that of the ordinary man because the *reserve kraft* is enormously increased.

In acute cases both the heart and the blood vessels may be involved. That is, the heart may be weak and the vasoconstrictors paralyzed. This condition is found in the majority of acute infectious disorders, and is a result of the toxic influence of bacterial poisons upon the heart and vessels. This is a reason for the great efficiency of the Brand Bath in typhoid and other acute infectious febrile disorders. The value of the Brand Bath is due far less to its direct influence upon temperature then to its beneficial effect upon the heart and vessels through its influence upon the cardiac and vasomotor centers. The strong sensory stimulation produced by the contact of cold water with the skin energizes the heart, stimulates the splanchnic nerves and so contracts the vessels of the splanchnic area, thus supplying an increased amount of blood to the heart, whereby it is able to fill the arterial reservoir, while at the same time raising the tone of the peripheral vessels and increasing the activity of the peripheral heart. The cold bath of Brand, when properly modified and administered is one of the most efficient of all means of aiding the body in its battles against the invading organisms of infectious febrile disease, hence its adaptability to all disorders of this class, which are almost without exception characterized by low-blood pressure.

The wet sheet pack, the cold rubbing sheet, vigorous cold sponging, cold rubbings, and all hydriatic procedures useful as anti-febrile measures, are effective through their favorable influence upon blood pressure.

One point should be borne in mind, especially in the treatment of typhoid fever, namely, in cases of hemorrhage there is likely to be a sudden drop in pressure, although the pressure may already be low. If perforation and infection occur, however, there will be a rise in pressure, hence systematic observance of blood pressure, as well as of temperature, is a matter of great importance in all febrile and surgical cases.

The application of cold over the heart by means of the ice bag, the cooling coil or a cooling compress slows the heart beat and by increasing the rest period of the heart allows time for flushing the myo-cardium, antagonizing the tendency to myo-cardial degeneration which results from an inadequate supply of blood to the coronary arteries in aortic stenosis and the brown atrophy which usually follows stenosis of the mitral valve. Cold applications to the chest are especially effective in cases of insufficiency of the right ventricle. Such applications are always followed by a deepening of the respiratory movements. A cold precordial compress applied for half an hour three or four times a day is a most appropriate measure, especially in cases of insufficiency of the right ventricle due to chest deformities, asthma, emphysema or goiter. The insufficiency of the left ventricle which results from the lost compensation in high pressure cases due to increasing dilatation, is greatly benefited by rest and prolonged moderately cold applications to the precordium; 80° to 60° may, by increasing heart tone, diminish the dilatation, restore the balance and secure marked temporary improvement by better flushing of the coronary arteries, breaking the vicious circle which increases the heart work while lessening its power through interference with nutrition; the process of fibrosis is temporarily checked, and so long as this arrest can be maintained, the patient may lead a comfortable and useful though restricted life.

Cold increases the tone of the heart and thus diminishes dilatation. By this means the work of the heart is lessened to a marked degree by decreased hydrostatic resistance, while at the same time the excitability of the heart is increased and thus also its working efficiency and reserve power. Although I have habitually made use of hydriatic methods in dealing with chronic disease during more than 40 years, it is only since the perfection of instruments of precision for the observation of blood pressure that it has been possible to make an exact study of the effects of the special procedures of hydrotherapy in this class of disorders. Since 1898 I and my colleagues of the Battle Creek sanitarium have observed cases in which blood pressure was 140 millimeters or above in nearly 6,200 cases. The general effects of the systematic application of the methods above outlined may be judged from the accompanying table which shows the average reduction of pressure as indicated by the difference between the systolic pressure observed when the

patient was received and when he was dismissed. In the table the cases are presented in seven groups according to the degree of high pressure.

Systolic Pressure.	No. of Cases.	Average Systolic Pressure		
		On Admission.	Points Lowered.	On Dismissal.
140-160	3,838	143.00	13	130.06
161-180	1,195	170.03	30	139.54
181-200	597	191.49	16	174.82
201-220	250	202.64	12	190.82
221-240	146	222.00	21	201.00
241-260	60	248.80	31	218.00
261-300	19	273.63	41	233.25

In conclusion I desire to say that I have made no attempt in this paper to present a complete therapeutic scheme for the management of cardio-vascular cases, but rather to call attention to the important part that hydriatic applications may be made to play. The regulation of the dietary, exercise, and personal habits of the patient are of utmost importance in combating the degenerative processes which induce arterial changes; diathermy, mechanotherapy, automatic exercise, and various other physiologic measures may be made to render valuable service. To attain a maximum degree of success, the patient's whole life must be controlled. He must be trained to live biologically and every rational and appropriate remedial measure must be utilized. Even then our best efforts will generally fail of accomplishing more than temporary amelioration in advanced cases, nevertheless, the results attainable even in cases apparently hopeless are sometimes so surprisingly good that it is very rare indeed, that a serious effort is not well worth while.

HOW MUCH BETTER CAN WE TREAT VENEREAL DISEASES THAN WE DID TWENTY YEARS AGO.*

ALBERT E. MOWRY, M. D.

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CHICAGO.

Progress in curing disease has been good but slow. Enthusiastic investigators have exploited thousands of cures and specifics, most of which have eventually fallen by the wayside after a greater or less period of expectancy, trial and popularity, followed by disappointment, failure and possibly damage.

Genito-urinary and venereal diseases have had their quota of specifics and life savers. They have also had their percentages of downfalls and undoings.

*Read at meeting of Stock Yards Branch, Chicago Medical Society, Dec. 9, 1915.

Do we, on the whole, secure better results in our treatment of venereal diseases than we did twenty years ago? I say absolutely, YES. And many of our results for the better have been secured by getting some good points on some of the discarded methods. So the investigations have in the long run evoked thought and better results.

I will attempt to compare present therapy with that of a few years ago.

CHANCROIDS

Formerly caustics and dusting powders of many names. Caustics ofttimes increased destruction of tissue, making bad matters worse; dusting powders created a hard shell over the site of lesion, causing retained secretions and increased destruction. A specific vaccine therapy was suggested, brought forth, given a trial on some new and old persistent cases, and much lauded as a partial specific. My experience with this therapy, while limited, has been disappointing, and I do not see this treatment used nearly as frequently as it was two or three years ago, which rather indicates its probable failure as a real specific.

TREATMENT TO-DAY

Plentiful use of soap suds two or three times daily, carefully rinsing off followed by local application of ether or alcohol. Put on bike jock strap and have patient change gauze at each act of urination. Dorsal slit if foreskin does not retract easily. Do not try complete circumcision as there will be a great ulceration and possibly destruction at sight of the sutures.

GONORRHEA

A few years ago many specifics both locally and internally.

To-day, fewer specifics both ways and still a list almost as long as the present election ballots.

ABORTIVE TREATMENT

A few drops of 2 per cent. AgNo 3 solution dropped in meatus and fossa navicularis using ordinary eyedropper will abort a small percentage of cases, but use of stronger solutions not advisable for many reasons.

The abortive treatment must be employed at

every first intimation of the infection to be of any service.

The treatment of acute gonorrheal urethritis twenty years ago was diversified but about as follows;—injections, antiseptic, astringent, and anesthetic. The syringe suggested about one-half ounces. The size of syringe has been reduced to usually one drachm or large penis two drachms because the large syringe overdistended the anterior urethra, causing irritation, tenesmus or traumatism to cut off muscle with resulting spread of infection to deep urethra, seminal vesicles or vas. This observation has been of great benefit in preventing complications.

At present a mild antiseptic and anesthetic injection is used carefully each time after urinating, always removing syringe just after injection and holding meatus with fingers gently so as to retain the solution for a couple of minutes. One drachm quinine bisulphate to six ounces distilled water is undoubtedly the best medication. Use a good grade of bisulphate of quinine, as a poor quality will percipitate, causing irritation.

Argyrol and its substitutes deserve mention.

In later stages our old AgNo 3 solution in one grain to the ounce deserves use.

Irrigations formerly much used are very much less used by men who are fairly close observers. An irrigation any way we may use it or any medication we may add has its disadvantages. It shows a rather forcible stream along the delicate mucous membranes causing more or less damage. You can turn your irrigator on the skin of your forearm and let it throw the stream on a limited field and when the operation is ended there will be smarting and possibly a reddened condition present. The skin on the forearm is much more resistant than is the urethral mucosa.

I have noted a rather severe hemorrhage following permanganate irrigations on several occasions.

Another point, irrigations overdistending anterior urethra slightly traumatises cut off muscle, but that small amount of traumatism will often account for acute epididymitis or posterior urethritis with all its bad features.

Internal medication for acute gonorrhea has practically dwindled to one drug, sandalwood in ten drop capsules after eating and I have found that sandalwood is tolerated much better if we give two drachms of the old mixture rhubarb and soda, about two hours after meals or a tablet of rhubarb and soda containing five grains of each will do instead. Hexamethyl enamine is not only of no help but it increases irritation.

The serum and vaccine treatment for gonorrhea and its complications are disappointing. As they stand to-day we must still try our old methods.

Carl Worden has fully demonstrated the fallacy of present vaccine therapy for gonorrhea.

Another important factor is how to keep pus from getting on underwear. Formerly a pledget of cotton was placed at meatus and foreskin pulled over it. This pledget of cotton would become saturated and act as a retaining plug, very much irritating the meatus and fossa navicularis. Next came the gonorrheal bag. The penis hanging in this unsanitary pouch with the cold pus and secretions giving a clammy feeling did not make the patient feel overly comfortable.

At present we must use a jock strap or athletic supporter which comes in three sizes, a piece of clean gauze surrounds penis and at each act of urination the penis is simply pulled out of one side of the strap and a clean piece of gauze substituted for the soiled portion. This scheme works splendidly.

REGARDING CHRONIC GONORRHEA.

The improved deep urethrescopes have greatly added to our knowledge and ability to treat pathological conditions present.

The Swinbourne deep urethrescope is simple, easy to manipulate and inexpensive.

The Brown-Buerger and others have advantages but are more complicated.

Strictures are not cut so much as formerly and the hard sclerotic stricture, while it still becomes necessary to cut at times, is not cut as deeply as used to be the case. Some of the terrific deep cuts formerly made caused much hemorrhage and possibly later permanent scar formation that might cause more or less permanent deformity to penis itself. Meatotomy should not be done as a routine treatment, as it many times causes a dribbling of urine.

The usual sound treatment followed the urethrotomy in a day or two. Now we wait a week after cutting before we begin to keep open with sound treatment. Much better results in

external urethrotomy are due to a better knowledge and technique.

Another advance in treatment of chronic urethritis is the ordinary Benique sound, with the usual calibre at the curve but a tapering smaller shaft towards the handle. The pain incurred on passage of these sounds is much less and they are even more efficacious than the old type because they squeeze out old urethral follicles both at ymitis and seminal vesiculitis; with many sug- to get an odd sound of this type and its good points caused me to order a complete set, which I use almost exclusively.

At the present time many surgeons are making the statement that so many cases of chronic gonorrhea remain uncured because the disease is in the genital tract rather than the urinary.

At the recent meeting of Genito-Urinary Surgeons, held in Chicago, almost the entire program consisted of papers on acute and chronic epididymitis and seminal vesiculitis; with many suggested operations for the cure of the same. No one method of treatment was accepted or generally endorsed.

In my opinion the old measures of treatment for acute epididymitis, namely, immobilization and hot fomentations, should be used until there is a more perfect understanding of the results and possibilities of operative procedures in these cases. In any event, my belief is that nine tenths of cronic gonorrhea is due to lesions of urethra rather than purely genital tract. One reason for this is that the irritating substances in the urine have a tendency to prolong pathological lesions in the urethra proper.

SYPHILIS.

Whatever may be said regarding the possible slowness in our being able to more promptly cure gonorrhea and chancroids cannot be said of advance in curing syphilis.

Twenty years ago practically no cases of syphilis were cured as we see conditions to-day.

Today, ten weeks after a chancre gives up a few spirochetes for our certain diagnosis, we can almost assure the patient he will never have a positive Wassermann again.

Physicians these days who wait for the secondaries to appear before beginning active antisyphilic treatment are guilty of gross carelessness and almost criminal negligence; because when the secondaries appear it means that syphilis has been generalized and the spirochetes are becoming encapsulated, which makes it a hard proposition to secure a complete cure.

The suspected initial lesion should be almost daily investigated in an attempt to find a spirochete and blood tests should be insisted on every few days to allow the earliest possible diagnosis.

How can we permanently cure early syphilis? If you have a smoldering fire in a slack dump connected with a coal mine and this slack is slowly burning, you can throw on a few streams of water and the fire to all outward appearances will be extinguished, but sooner or later you can expect to see more smoke arising, showing a latent fire. But if you cause a deluge to come in contact with the slowly burning slack you can entirely extinguish the fire. You might keep a light hose working on the fire for years and still not do the work. So it is with syphilis. Put a deluge of soluble mercury, so to speak, in the blood for ten weeks and you can almost bank on permanent results.

If we use mild measures the spirochetes will not diminish much in numbers. If we use heroic doses of mercury the immediate result will be the destruction of many spirochetes, but if the next dose is delayed in the meantime the spirochetes not killed will reproduce and there will be almost as many as when previous dose was given. Go to the spirochetes ferociously.

If we treat pediculi pubis we must get every one as well as the larvæ, for if we leave one and discontinue treatment, in 2 or 3 weeks there will be another healthy colony.

To give mercury in heroic doses often repeated means soluble mercury in order to insure safety and avoid complications. As between soluble and insoluble mercurials for injection purposes, why do I give soluble? First, it is safe. If we do happen to get into the vein we simply have an intravenous injection of a soluble mercury. That does little or no harm, but with all our careful technique and care we sometimes get into the veins with our injections.

If an insoluble salt is injected into a vein the results are possibly a coroner's inquest or a pulmonary or cerebral embolism, with all their uncertain and distressing symptoms. These things do not happen every day. No, but they do happen, and along with it goes sometimes the repu-

tation of a competent man, as viewed by the laity.

Another factor, and very important one, is that in using insoluble injections we can only give an injection at rather long intervals because of possible accumulation, while in soluble injections we can give large doses every second day and secure the intense mercurial action we desire.

Another factor that I do not believe has been fully enough dilated upon is that slow absorption of mercury, such as we get from insoluble injections or mercury given per mouth, has a marked tendency to cause ptyalism with all its bad symptoms, while soluble injections of mercury seldom causes salivation, in fact, I have noticed a peculiar tonic effect in many cases.

It is claimed that insoluble mercury does not cause as much local pain and that is given as one reason for its use. All that I can say is all and any kind of injection into the gluteal muscles causes pain and it is six of one and half a dozen of the other.

The one essential feature to be considered between soluble and insoluble mercury injections is that soluble injections in large doses will almost invariably cure syphilis in its early stages; while insoluble injections do not as a rule cure.

The recent report of the surgeons at Ft. Leavenworth penitentiary on the use of salicylate of mercury over long periods of time with only one cure in forty or fifty cases should cause advocates of insoluble mercury to pause and think.

I use but little iodides in my treatment. I find that tincture of iodine, three to eight drops in water after meals, is better tolerated and mouth as indicated in our present knowledge in

I do not consider administering mercury per mouth as indicated in our present knowledge in the treatment and cure of syphilis.

Mercurial inunctions, while possessing some virtue, I do not consider nearly as efficacious as injections of large doses of benzoate of mercury.

I formerly used the bichloride in its famous 8 gr. bichloride, 8 gr. carbolic acid, 16 gr. sodium chloride and 1 oz. distilled water, but today I use one per cent benzoate of mercury in normal salt solution with a slight excess of the salt; this makes a perfectly clear solution. I give an average sized adult as a beginning dose about forty drops in the deep gluteal muscles. I use a dental sub. safety syringe and use needle one and one-half inches long, twenty-two gauge. I use a new needle practically each time, as a dull needle causes much more pain and may stop at some sheath in the muscle and unloading the contents at this point is more painful than if contents are emptied in soft muscular area, which will usually be the case if sharp needle is used.

I increase the doses up to 90 drops and give every second day. This is big dosage. Yes, but I have given thousands with no untoward results, not even kidney irritation and with but a very few cases of ptyalism, which cannot be said of insoluble injections. I give about thirty injections as a rule.

Most surgeons advise injections in upper and outer quadrant of gluteal muscles. My experience has caused me to usually inject low down in gluteal muscles not far from the fold. The pain and discomfort are less when injections are made here.

I find in hereditary syphilis my results are not satisfactory with this treatment and also in very old cases, but in early syphilis I absolutely expect a quick and permanent cure. A number of cases that I treated five years ago when the Wassermann test was first practical still show a negative test and good health.

I do not claim any originality in this treatment, but I have carried it on diligently in private practice and clinics and feel certain of results.

Since salvarsan and neo-salvarsan have been on the therapeutic bill I have given patients the benefit of possible aid by these agents and have concluded about as follows:

Salvarsan is much superior to neo-salvarsan. Salvarsan should be used by men who have made a thorough preliminary preparation by doing plenty of blood vessel work and know the many little points.

I have seen a tube of salvarsan discarded because of a little faulty color which meant a chemical change that might kill the patient.

I give these facts because I believe the giving of salvarsan in competent hands as an aid to the mercury is advisable. I give mercury for ten days, an injection every second day, then wait two or three days and give salvarsan, then two days later start in on mercury ten days more,

with five injections of mercury, then salvarsan again in two or three days, then two days later start on mercury etc., in all about five injections of salvarsan and twenty-five or thirty of mercury. Do not give mercury and salvarsan within thirty-six hours of each other.

Salvarsan by itself, I do not believe will cure syphilis. I have noted too many recurrences even after five or six doses, but with the mercury it undoubtedly hastens permanent cure.

Removal of chancre by excision as soon as we know spirochetes to exist, thus cutting off a large local foci, is possibly advisable at times.

PREVENTING VENEREAL DISEASES.

As we see the thousands of new cases of venereal diseases appearing each year and look back twenty years, we rather wonder whether we are doing our best to stamp out these terrible evils. There does not seem to be much of a letup in new cases; in fact, the percentage may show an increase. We must impress in a way not to be mistaken the dangers of venereal diseases on young boys 14 years old. Tell them death and much suffering are often caused by "clap." Tell them if they do decide to take chances to be sure and make plentiful and copious use of soap suds followed by an immersion of penis in a one to five diluted alcohol (20 percent) for a few minutes immediately after coitus.

At 14 a boy's sexual status is not determined. We must act at that time to get results.

I have designed a brief (for brevity counts when we want to tell boys) card with a suitably inscribed sealed envelope to enclose it, which will at least let boys 14 years old know "clap is no joke."

SURGERY AND SYPHILIS.*

J. H. Carstens, M. D., F. A. C. S.
DETROIT.

Years ago, I had charge of a dispensary for ten years. Here, as in all dispensaries, there gradually drift all the cases that have made the rounds and have been subjected to all kinds of treatment for years without benefit, and finally they end there. They are mostly patients that are supposed to be incurable, such as chronic joint troubles, the so-called rheumatism, heart diseases, dropsy, enlargement of the liver, stomach troubles, kidney diseases, inveterate skin troubles, and the long string of nervous symptoms where we will find no particular classic symptoms, but find the patient is miserable and sick.

This was right after the Franco-Prussian war, and some of these patients had come over from France, but a good many from Germany. Naturally, I treated these patients on general principles, alteratives, iodides, and mercurials predominating. It was astonishing how some of these chronic cases would rapidly improve under such a line of treatment. I soon learned that many were obscure cases of chronic syphilis, and on more thorough investigation, I found that some of these patients while in the army had a primary lesion, and were subjected to a most thorough systematic course of treatment by inunction, and that for twenty or thirty years they had been perfectly well, and married, raised a family of healthy children, and now in their old age developed these various, often obscure, diseases and symptoms. After this had been thoroughly impressed upon my mind, I began systematically to look for the trouble, and readily made the diagnosis. For instance, people with some obscure heart trouble, with dropsy or edema, would improve and remain well for a long time; others with chronic joint troubles would rapidly clear up with constitutional treatment, there being simply gumma deposits near the joints. Cases of diabetes where the symptoms would often clear up. When it came to the chronic skin troubles that was easy. Then we had the long array of liver enlargements, with more or less jaundice, that were gradually relieved by iodides, also some cases of diabetes, and finally we relieved those most obscure nervous troubles of all kinds, restlessness, sleeplessness, sometimes delusions. Many of these we could relieve with the anti-specific treatment.

There was another thing I learned at that time, and that was that the American profession, as a rule, had never properly learned how to treat syphilis with the systematic method by inunction continued for several years. I should rather say, some American physicians had not learned it, for even though some had a clear conception of it, they could not carry it out as they did in the German army. The patients would perhaps carry

*Read before Chicago Medical Society, Feb. 9, 1916.

on the treatment for a few months; when all the symptoms disappeared they would not return. I know they treated me that way, and so I did not blame my colleagues for not carrying out the treatment for a long time, as the patients would not submit.

About this time I became professor of therapeutics, and with this experience it is natural that I emphasized to the students the great value of mercurials, and especially iodides in all chronic and obscure cases, and I most emphatically impressed upon their minds that they should never let an obscure or an apparently incurable case go without subjecting it to a thorough course of treatment by iodides. I was so positive on this point that a student with a poetic turn of mind one day wrote on the blackboard just before I entered the lecture room,

"If on the diagnosis you cannot decide,
Just try a little potassium iodide."

Well, that was a good, catchy phrase, and I used it in my lectures thereafter.

In the course of time, when papers were read before our medical societies, and I got up to discuss them, and said that I had cured so-called chronic hepatitis with iodide of potassium, and on other occasions said I had cured such nervous conditions and sleeplessness with the same remedy, or if I said I had apparently cured some heart troubles, or dropsy, with iodide, and that those chronic joint troubles could often be relieved by the same remedy, I could see a smile pass over my colleagues' faces. I knew they thought in the slang expression of the day, "Nutty on the subject"; but I was not. I had had the experience, and, as the banker says, the collaterals to prove it.

In the course of time it was a gratification to me to read in the medical journals the reports of investigators showing that aneurism of the aorta was often caused by syphilis, and when the spirochete pallida was discovered, and investigators proved that it was found in the liver, nervous system, and joints, and so on, I was pleased to have my views verified by actual demonstration. Within a few years Professor Warthin of Ann Arbor has shown that in apparently *cured cases of syphilis* he has been able to demonstrate the spirochete in the heart muscles on postmortem examination, and showed them with the lantern slides. He has also lately shown on postmortem examination in cases of diabetes that the pancreas was filled with the spirochete, which goes to show that anti-syphilitic treatment in such cases might often relieve the patient. This long prelude you may think has nothing to do with the title of the paper, but I bring that out simply to show you how I have been evoluted into this view by my past experience.

You can readily see that when in the course of time I was gradually developed into an obstetrician, and from that into a gynecologist, and from gynecology into an abdominal and pelvic surgeon, that I carried this experience and these views into my new field of action. I soon found that patients with different kinds of pathological conditions that required operative interference were often suffering from syphilis, and that the latter really produced the symptoms. That they needed an operation to cure a badly lacerated cervix or perineum, to relieve a displaced uterus, or to remove tumors of various kinds. To help their stomach troubles it was necessary to remove gall-stones, or a chronic or diseased appendix, or relieve adhesions. But back of all these there were little obscure symptoms due to a syphilitic condition, that could only be helped by constitutional treatment, and I soon had cases returned to me, patients whom I had operated on and where I had been careless, and not made the diagnosis of syphilis. When I had patients come to me who had been subjected to an operation, some to several, without any benefit, and on thorough investigation I found that some of them were obscure cases of syphilis that required besides operation, which may have been very proper and well done, constitutional treatment. I became more careful. Hence, now in all cases that I investigate I am always on the lookout for syphilis.

Years ago I had a patient (whose son had been a student of mine, and was practicing in the country) come to me for some simple endometritis, made local applications for a few weeks, and then I did not see her for a couple of months. Then I was called to her house in haste, found her suffering from hallucinations of a funny kind. She had not slept for nights, she said, and could hardly be controlled. I soon recognized the trouble and promptly put her on hypodermic injections of bichloride of mercury, a quarter grain once a day, well massaged, and twenty

grains of potassium iodide three times a day. She was soon relieved of her nervous symptoms and perfectly well thereafter, dying some years later of pneumonia.

Some fifteen years ago a patient with a fibroid tumor came from Colorado to Detroit to some relatives for the purpose of having an operation. I was called to see her, and she was very weak and run down; she had not had any nourishment for three weeks, they claimed. Constant vomiting, but they thought the tumor caused the vomiting, and that she would not be cured until the tumor was removed. The tumor was quite large, but I knew better. On investigating the case, I found that some six weeks previously she had had a kind of dizzy and fainting spell, but soon recovered, and I found well marked evidence of syphilis. I also put her on a quarter grain of bichloride of mercury hypodermically, and twenty grains of iodide of potassium three times daily, giving the latter by rectum until her stomach was settled and she could take it by mouth. Inside of a week she could eat anything and developed a voracious appetite, and had gained rapidly. I was about on the point of setting a day for the operation, when one morning as the nurse was combing her hair she gave a gasp, fell over in the bed; before I got to the hospital she was dead. Fortunately, we could make a postmortem examination, and found that she had an effusion of blood at the base of the brain, and also had an old blood clot, which probably had caused vomiting. These cases were before the spirocheta and Wassermann test.

When your secretary kindly invited me to read a paper, I was delighted to come, but really did not know what to write about, as everything has been covered so frequently and thoroughly. But during the next week I had four different cases, and it suddenly occurred to me that the above title would be a good subject, as not much has been written on it so far as I know, and at the same time it would be of practical use to the general practitioner, as well as the surgeon. You all know about it as well as I do, but the symptoms are so mild and obscure in many cases that we often do not think of it. I know it has often happened to me in spite of being especially alert on the subject, and I often overlook it on the first examination, and only after treating the patient for a while it suddenly dawns on me that I neglected to investigate that side of the case, as the other symptoms predominated so powerfully.

Case 1. Mr. M——— came to me and complained of backache and trouble in passing water and feces, had been treated by a number of physicians, and was told that he had a large prostate and needed an operation. He was forty-six years old, and brought his son along, a young man of eighteen who seemed to be perfectly well. He was nervous, suffering from sleeplessness, and had lost about twenty-five pounds during the last three months. On investigation, I found evidence of syphilis. Rectal examination showed an enlargement between the bladder and rectum; there was no stricture. I sent him to Harper Hospital for a thorough examination, found the bladder normal, as well as the kidneys, but the Wassermann examination showed XX plus. I immediately put him on mercurial inunctions, one dram a day on the back when the pain was severe. Of course, it makes no difference where you put it, but it has a moral effect on the patient. In a few days the backache ceased, he could sleep well, the swelling gradually diminished, and the urine and bowels moved freely. He has gone to work, but is still under treatment.

Case 2. Mrs. B———, aged forty years. This patient came to me nine years ago, her menstruation had gradually became less and far between, and for the last two years had not appeared. I dilated the uterus and inserted a stem pessary, and in a few months it became normal. After one year I removed the pessary, and it has been perfectly normal for eight years, but during the last year it has gradually become less and painful, and at long intervals. She has become nervous, sleepless, and at first seemed perfectly straight mentally, but after a little while she told me the most marvelous stories, and I saw that she was suffering from delusions. I sent her to Harper Hospital, had a careful examination made of the urine, which was normal, and the Wassermann report was negative. It made no difference to me; I recognized the syphilitic trouble, ordered a dose of salvarsan intravenously, and promptly put her on inunctions of mercury, one dram a day applied to the back. The fifth night she slept through without a single disturbance, and was clamoring to go home. I told her she had to continue the treatment, but as she had a practical nurse at home, I allowed her to go. The treatment was not continued, and in two weeks she was nearly as bad as when she started. I sent her to a sanitarium, and turned her over to Dr. David R. Clark, who is treating her vigorously, and tells me she is much improved.

Case 3. A lady from Canada, on whom I had operated years ago, brought her sister to me for my opinion. This young woman, twenty-seven years old, had her first baby two and one-half years before, and since then had been ailing. She was supposed to have some womb trouble, as she had backache. She claims that she had not slept for three weeks; she was very nervous, anemic, and run down. Menstruation was

normal, rather scant; she was very constipated, and took castor oil every day. On examination I could not find any pelvic trouble. The slightest little laceration of the cervix had healed, a slight tear of the perineum was of no importance, all the organs were in proper position, and I could not find any evidences in the pelvic, or any abdominal trouble. I immediately put her on anti-specific treatment, and she is already much improved.

GENERAL CONSIDERATIONS.

But what is the use of relating more cases? I just mention a few different types of symptoms. The great point is to recognize the trouble. First of all, let me say about the Wassermann reaction. I always make use of it, and if it is positive I can, of course, state beyond any question what the trouble is. But if it is negative, I for one, pay no attention to it. I make the diagnosis just the same as I did before such a thing was heard of. It has been shown that alcohol would produce a negative result, and many people take it in some form or another, even unconsciously. Anesthetics have the same effect, and a good many other things that we know not of at the present time. So that in my opinion, the Wassermann is a valuable thing when it is positive; the negative is of doubtful value, and I must often smile when I hear about patients being cured of syphilis because the Wassermann is negative. In my opinion it is no proof whatever, and I think but very few are positively cured. Some nidus of spirocheta remain somewhere in a joint, in the heart muscles, or in the nerves, or the spinal fluid, and in the course of time will again manifest themselves. The diagnosis is ordinarily easy, although in some cases you have absolutely no history, but on repeated interrogation you will often find that the patients will suddenly remember that they had had persistent throat trouble, skin lesions, falling out of the hair and so on, and frequently you will find nodes on the tibia and the clavicle, and enlargements of the post-cervical glands. But if all these should fail before beginning treatment, it is marvelous how the energetic treatment by mercurials and iodides will clear up the symptoms, and I know of no other conditions or disease where such remedies will have any such effect. As a rule, I start them with protoiodide of mercury, a quarter grain, quinine two grains, three times a day for about ten days. If they have had, however, treatment before, I start them with iodide of potassium very small doses, five grains, three times a day in water, to gradually eliminate the mercury. If you give too big doses at once you may get all the symptoms of mercurial poisoning. In four or five days I double the dose, and in another few days perhaps double it again, giving sixty grains during the day. The mercury is all washed out of the system before that, and now you get the effect of the iodide. You must bear one thing in mind, however, that the kidneys do not eliminate more than twenty-five or thirty grains a day, and by giving large quantities of water, which you always must, you may increase this some, but we reach a limit and the iodine will accumulate in the system and will thereafter be eliminated when we cease giving it for several weeks. After the iodine is pretty well eliminated and the symptoms have disappeared, I start them with inunction of mercury, saturate the system by using one-half to one dram just to the edge of tolerance. I then reduce it to ten grains or twenty grains, and make the patient keep that up for a year or two, and report occasionally.

This mercurial inunction, however, is a disagreeable thing to many patients, and sometimes I do not want patients to know what they are getting, especially if they are women, when we do not tell them what the trouble is, as is often desirable. I have been trying and experimenting all kinds of ways how to cover the color of mercurial ointments. I have not succeeded very well. The best I found is belladonna ointment half and half, sometimes two-thirds belladonna. This gives the ointment a green color and peculiar odor, and colors the mercury. You will ask about salvarsan; it certainly is a valuable remedy in certain cases, but its use is limited, as I can learn from others, and from my own experience. I give a few doses, a week or ten days apart, not more than three or four, and follow it up with the inunction. I have seen large quantities given and repeatedly without any benefit whatever, and I have seen quite a few who undoubtedly died of arsenical poison. Too much salvarsan is given—a regular craze it seems to me.

The value of arsenic has well been recognized in this disease, and more than forty years ago Donovan devised a solution of arsenic, mercury, and iodine, given just like Fowler's solutions, and I have found this a most valuable remedy on

many occasions. When other remedies failed to do any good, or they had been tried by their physicians, and especially in those cases that could not tolerate iodine of potassium, I got prompt and good action from Donovan's solution, starting with five drops three times a day, and gradually increasing it to ten.

Most of my patients being women, it is peculiar how the laity and also some doctors attribute every trouble that a woman may have to her pelvic organs. If there is the simplest trouble, a slight laceration, displacement or benign tumor, all of her symptoms are believed to be caused by this simple or mild pelvic condition. I have always warned the family physician and the patient, that all the symptoms will not disappear after operation, that they often need long continued after treatment by their family doctor, and there is no use to operate on them unless they agree to this; whether it is syphilis, chronic constipation, dyspepsia, or any other trouble, the operation does not relieve all the symptoms.

I simply call your attention to one condition often complicating surgical cases, and that is syphilis. The symptoms are so peculiar, changeable, coming and going, that they are often overlooked. All I plead for is, do not promise patients too much, as the result of the surgical operation. But if you can see back of all that, the syphilitic condition, you can as a rule, give them wonderful relief with or without an operation.

In conclusion, I would simply say:

First. Many symptoms in surgical cases are not caused by that condition.

Second. Surgical symptoms are masked or even intensified by syphilis.

Third. By constantly looking for syphilis, we will seldom overlook it, and be able to relieve many symptoms in our surgical patients.

Fourth. If recognized, long continued systematic treatment is necessary.

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MICRO-ORGANIC WEIGHT.*

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As much attention as the question of bacteriology has received, little, it appears, has been thought of the weight of a micro-organism. This evidently is due to the fact that it is hard to conceive of it having any weight that can be

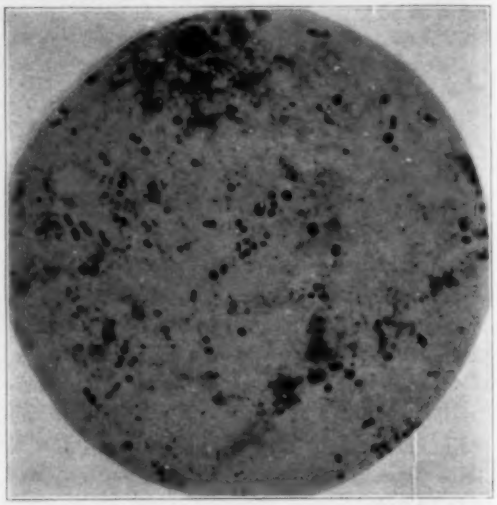

Fig. 1. First Run. Streptococci and Milk Bacteria.

determined by physical means, as well as to the apparent unimportance of the question.

However, that bacteria of all kinds do have an appreciable weight is easily demonstrated by

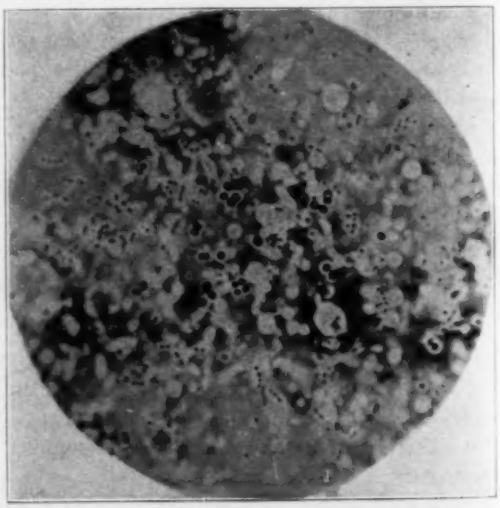

Fig. 2. Second Run. Streptococci and Milk Bacteria.

various gravity methods and especially through the effect of centrifugal force. That it is also a matter of great importance in the question of

*Read before the Warren County Medical Society, Nov. 12, 1915.

public health, and probably will be considered more so in the future, I will try to point out through a series of experiments I have conducted in the direction of determining relative weights of different species.

The clarification of milk, water and various

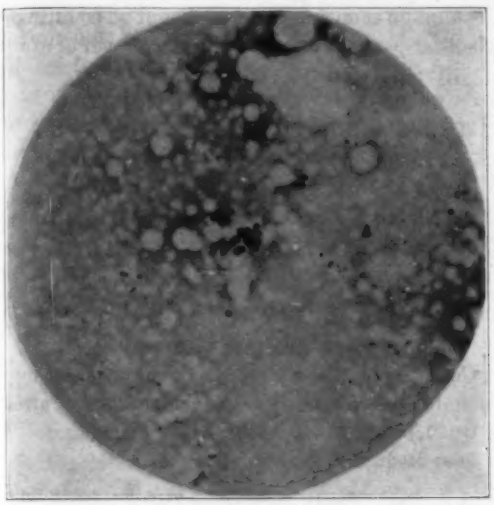

Fig. 3. Third Run. Streptococci and Milk Bacteria.

other food products is being done in many parts of the country, at the present time, by means of centrifugal machines, such as the cream separators and those of later make, especially designed for clarification only. These were primarily constructed with simply the thought in mind of their power to remove dirt and all heavier particles of matter from a fluid medium. Further study, however, of the residue left in them, after the process of clarification, has revealed that the bacterial contents of these fluids are also markedly affected.

Eckles and Barnes, through a series of experiments with the early makes of cream separators, at the Iowa Experiment Station, report that on an average of from 37 to 56 per cent of the organisms in milk are removed by centrifugal force. More recent experiments with improved machines have put these figures somewhat higher.

In consideration of such percentages of bacteria removed, from either milk or water, by machines that have primarily not been intended to meet the bacteriological question, it seems highly probable that centrifugal force can be developed to such an extent as to make mechanical sterilization, where it cannot be carried out otherwise, practical, if not absolutely complete.

The foregoing figures also apply to bacteria in general. Little work has been done in the direction of determining specific results with different species of micro-organisms. Since the weight of bacteria is enough to make their precipitation from a fluid practical, can there not be a relative difference between the weights of different members, enough so as to make the question of clarification of milk or water more practical in dealing with certain ones than with others?

This, I have also found to be the case, and an important point that I have found is that the pathogenic bacteria, commonly met with, are precipitated much more readily than are the nonpathogenic. My experiments were conducted with the De Laval Milk Clarifier, which is so constructed that when a fluid is run through it the residue removed is left in the machine, making reliable determination of the number of bacteria removed and the calculation of the units of gravity for different ones possible.

The following constitutes my series of experi-

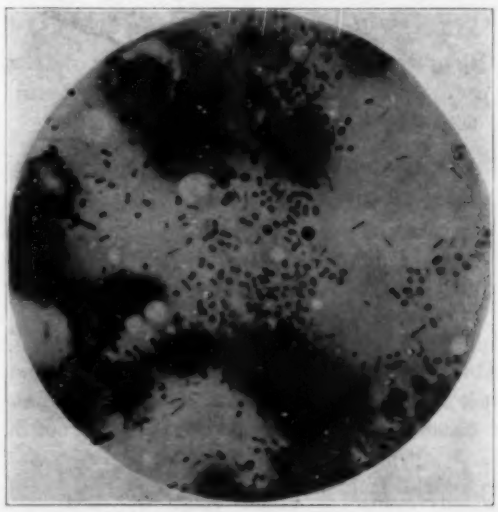

Fig. 4. First Run. Typhoid and Milk Bacteria.

ments and basing my unit upon the percentage of bacteria removed from a given quantity of fluid of the same specific gravity and with the machine running at the same speed, I have been able to get definite figures in regard to the weights of some of the more common bacteria.

No. 781. One gallon of milk almost at the point of souring and containing a very high bacterial count.

	Bacteria per cc before	Bacteria per cc after	Reduc. per cent.	Souring time 37C
1st run	1.800.000.000			1 hr.
		800.000.000	56	2 hrs.
2nd run	800.000.000	100.000.000	89	3 hrs.
3rd run	100.000.000	12.000.000	88	4 hrs.
4th run	12.000.000	240.000	98	5 hrs.
5th run	240.000	94.000	60	6 hrs.
6th run	94.000	32.000	65	7 hrs.

No. 782. Specimen of water containing a large number of bacteria and especially Colon bacilli.

Total number of bacteria per cc. before	Colon bacilli per cc. before	Total number of bacteria per cc. after	Colon bacilli per cc. after
4.000	170	1600	40

Reduction of total number of bacteria.....60%
Reduction of Colon bacilli.....76%

No. 783. Broth culture of Staphylococci.

Colony count per cc before	Colony count per cc after	Reduction per cent
60.000.000	6.500.000	89

Same culture using counting chamber to determine number of bacteria per cc.

Count before	Count after	Reduction per cent
160.000.000	8.000.000	95

No. 784. Broth culture of Typhoid bacilli.

Colony count per cc before	Colony count per cc after	Reduction per cent
20.000.000	8.000.000	60

No. 785. Broth culture of Streptococci.

Colony count per cc before	Colony count per cc after	Reduction per cent
14.000.000	280.000	98

No. 786. Broth culture of Typhoid bacilli.

Count on counting chamber per cc before	Count on counting chamber per cc after
240.000.000	80.000.000

Reduction 67%

No. 787. Broth culture of Staphylococci.

Count on counting chamber per cc before	Count on counting chamber per cc after
280.000.000	20.000.000

Reduction 92%

No. 788. Mixed culture of Staphylococci and Typhoid bacilli.

Count on counting chamber per cc before	Count on counting chamber per cc after
Staphylococci 140.000.000	10.000.000
Typhoid bacilli 120.000.000	40.000.000

Reduction of Staphylococci ...92%
Reduction of Typhoid bacilli..67%

Total count per cc before	Total count per cc after
260.000.000	60.000.000

Total reduction.....76%

No. 789. Broth culture of Streptococci.

Count on counting chamber per cc before	Count on counting chamber per cc after
1.120.000	500.000

Reduction 95%

No. 790. Broth culture of Colon bacilli.

Count on counting chamber per cc before	Count on counting chamber per cc after
42.000.000	20.000.000

Reduction 53%

No. 791. Broth culture of mixed bacteria from water.

Count on counting chamber per cc before	Count on counting chamber per cc after
44.000.000	20.000.000

Reduction 54%

No. 792. Broth culture of Streptococci.

Count on counting chamber per cc before	Count on counting chamber per cc after
405.000.000	30.000.000

Reduction 93%

No. 793. Broth culture of Pneumococci.

Count on counting chamber per cc before	Count on counting chamber per cc after
200.000.000	10.000.000

Reduction 95%

No. 794. Broth culture of Staphylococci.

Count on counting chamber per cc before	Count on counting chamber per cc after
600.000.000	10.000.000

Reduction 95%

No. 795. Broth culture of Diphtheria bacilli.

Count on counting chamber per cc before	Count on counting chamber per cc after
400.000.000	40.000.000

Reduction 90%

No. 796. Streptococci in Milk.

Average number of Streptococci in microscopic field in smears from sediment.	Average number of milk bacteria in microscopic field in smears from sediment.
1st run 700	100
2nd run 292	40
3rd run 19	19

No. 797. Typhoid bacilli in milk.

Average number of Typhoid bacilli in microscopic field in smears from sediment.	Average number of milk bacteria in microscopic field in smears from sediment.
1st run 88	276
2nd run 182	324
3rd run 42	157

Summary: Taking all of the foregoing experiments together, we get a general average of reduction for all the organisms of 78 per cent, which agrees very nearly with quoted figures of others I have found. Specific results with the various organisms alone, however, show there is quite a margin of difference between the percentages.

	Per Cent.
For Streptococci the average is.....	96
Pneumococci	95
Staphylococci	94
Diphtheria bacilli.....	90
Typhoid bacilli	64
Colon bacilli.....	59
Saprophytes	57

Considering that the percentage of reduction is in accord with the relative weight of an organism, in centrifugal units, it may be stated that a

Streptococcus weighs.....	96
Pneumococcus	95
Staphylococcus	94
Diphtheria bacillus.....	90
Typhoid bacillus.....	64
Colon bacillus.....	59
Saprophytes	57

While in determining the number of bacteria in a culture there is always a big room for error, in using the counting chamber, this is reduced to the minimum. Throughout the experiments I could not help but be convinced of the greater density of the pathogenic organisms, especially the Gram positive ones.

Streptococci are especially heavy, and it might safely be stated are relatively the heaviest of all the common bacteria. Not only are the singular cocci thrown out most readily, but the long chains, naturally meeting some resistance in passing through the fluid, in the process of clarification, are equally as numerously found in the residue. In experiment No. 796 streptococci, to begin with, predominated in numbers of 7 to 1 against the large bacteria of milk and in three

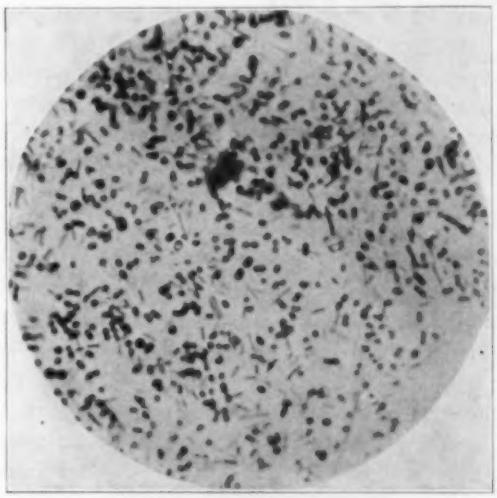

Fig. 5. Second Run. Typhoid and Milk Bacteria.

runs of the specimen appeared in equal numbers in the smears from the residue. This relatively greater weight of streptococci is also borne out by experiments of Rosenow, mentioned in the *Journal of Infectious Diseases* of December, 1912. In analyzing a number of specimens of slime that had been taken from the clarifying machine after a quantity of milk had been run through it, he found that plate cultures showed more colonies of streptococci than of any other organisms. As cultures from milk directly usually show the reverse, it is evident that in the case of the residue, streptococci simply had been taken out to a higher percentage.

Staphylococci, pneumococci and diphtheria, likewise, fall readily to centrifugal force. Facts point plainly to a greater density of typhoid

bacilli than of colon and of saphrophytes. While the difference is not great, it has been appreciable in all the experiments I have conducted. Especially do the very large bacteria of milk appear to be relatively light in weight. While some of these are many times as large as a streptococcus, it is very plain that they are not nearly as compact and have more of a tendency to float rather than to sink.

Since streptococci, pneumococci, staphylococci, diphtheria and typhoid baccili constitute largely the group of offending organisms we have to deal with in milk and water, their relatively greater weight makes it very promising of an easy means of eliminating such numbers as contamination would be likely to show.

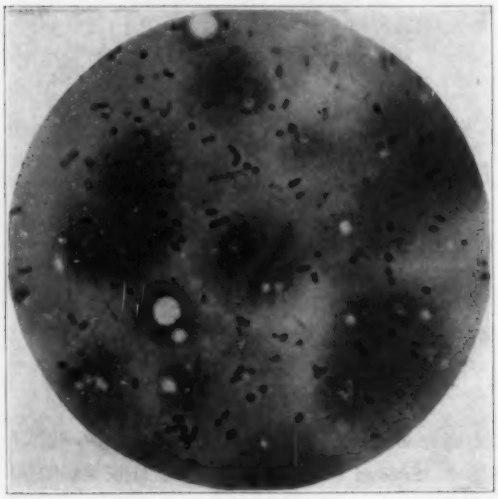

Fig. 6. Third Run. Typhoid and Milk Bacteria.

While pasteurization of milk remains the safest way of eliminating the consequences of bacterial contamination, it cannot well be carried out in the country or in private homes and especially meets its objection where milk is furnished in very large quantities to institutions, etc. Boiling of water and other means of making it safe for drinking purposes likewise have many points of objection. I am sure one of the greatest points in practical sterilization of these food products, all around and everywhere, lies in the question of micro-organic weight.

Greater weight naturally points to a greater density, as I have already stated; this evidently has something to do with the various staining properties and cultural characteristics of bacteria. It is possible that it is owing to the density of the Gram positive organisms that when they are once stained they do not give up the stain so readily again as do the Gram negative ones. Whether density has anything to do with pathogenicity in any way, is hard to say. It is, however, quite possible that this density offers some protection to an organism against the protective agents of the blood, as well as of the tissues in general.

Figs. 1 to 3. Smears made from the residue of three consecutive runs of milk showing relatively greater reduction of number of streptococci.

Figs. 4 to 6. Smears made from the residue of three consecutive runs of milk showing relatively greater reduction of typhoid bacilli.

PROTEID NUTRITION: THE OLD AND THE MODERN SCHOOLS.*

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With the discovery of focal infections and of the selective action of bacteria, the pendulum of medicine swung in the direction of looking for and treating the primary etiological factor. But, as it was so often in the history of medicine, the pendulum of a new discovery swung a little too much in one direction. In the present case, it seems to me, it swung too much in the direction of bacterial etiology. The fashion-like changes and extremes have rolled medical science for centuries on the waves of human experience and experimentations, and in its struggle for truth medical science has failed to notice another etiological factor which was always nearer for our observation and which works on the human organism daily for good or for evil. This etiological factor is no doubt nutrition.

To know what makes normal nutrition is to know how to recognize and correct evils due to abnormal nutrition. Therefore, the importance of the subject.

The scientific study of nutrition started with Liebig, and since, the views held by physiologists have undergone different changes. So far as carbohydrates, fats and mineral matters are concerned, there is a practical unanimity among

*Read before the Northwest Side Branch of the Chicago Medical Society, Jan. 7, 1916.

physiologists. The bone of contention is the proteids. The object of this paper is to give you a short review of what has been done by biologists on the field of proteids, and thus help us to modify our views and practices in our daily advices to patients in relation to nutrition, so far as proteids are concerned.

Justus Liebig, who practically was the first to make a scientific study of our diet, seeing that nitrogen enters into the composition of all organic bodies and forms, a necessary part of our food, assumed that nitrogen is the most important element for the support of life, and is the only source of muscular power. "Experience teaches us," he writes in the celebrated Chemical Letters, "that in organisms there is only *one* source of mechanical power, namely, the conversion of living parts of the body into organic compounds by oxidation." In another place he says, "all organic tissues which develop power in the body originate from the albumin of the blood. But the albumin originates from those parts of our food which contain the elements for its formation. Evidently then, the source of mechanical activity (or power-producing element) must be traced to the nitrogenous part of our food; the non-nitrogenous part (fat and carbohydrates) serves only to produce heat." Of course, meat and eggs and other proteid foods were hailed as the most important part of our nutrition.

With the further development of science, when the correlation of physical forces became a generally accepted fact, and when the celebrated principle of the conservation of energy remodelled modern physics, opposition began to develop to Liebig's theory, which found its final collapse in the classical experiment of Professor Frankland of England and Professors Fick and Wislicenus of Zurich. Since then it has been firmly established, first, that the source of muscular power, or of mechanical activity, of our organism is not the proteid or nitrogenous food, but the carbohydrates and fats; and, second, that nitrogenous food serves mostly as the plastic element for repair and building up of the tissues. Though this was proven conclusively, and is at present accepted by all physiologists, the intelligent laity and even physicians still continue to think that meat and generally a high proteid diet is necessary for every working man.

But the biologists did not rest on this discovery, and the next step was to define the amount of proteids necessary for daily consumption, and the relation between the proteid and carbohydrate intake.

Carl Voit of Munich, a worker for years on the question of nutrition, is the standard bearer of the era of high proteid intake. His observations resulted in the well-known "Voit's Formula" or dietetic standard:

118 Grams P (105 absorbable) + 56 Grams F + 500 Grams C = 3000 Cal.

Lichtenfeld, studying the nutrition of Italian laborers, found that 110.5 grams of proteid were used daily and the total caloric value of the food was 2698 Cal. Moleshott, Ranke, Pettenkoffer, Forster, Hultgren and Landergren (189 grams of proteid), Landergren, Studenmund, Schmidt and our own Atwater (125 grams of proteid) and some others have furnished dietetic standards with approximately a little more or less than Voit's. Armand Gautier, author of the latest and possibly the best book on dietetics, finds that 110 grams of proteid are necessary daily for the average working man; he admits that this amount can be reduced to 78 grams for easy work, but for hard work 135 grams are necessary.

All these dietetic standards are made from observations on national dietetic habits and on army and prison diets.

While the standard worked out from observation of national dietetic habits by the above named leaders of science may be taken as showing quite conclusively the dietetic standards adopted by mankind, there is no evidence whatever that they represent the real needs or requirements of the body. We may even question whether simple observation of the kinds and amounts of food consumed by different classes of people under different conditions of life have any very important bearing upon this question. They throw light upon dietetic habits, it is true, but such observations give no information as to how far the diets in question serve the real needs of the body.

[1]Take, for example, the Russian miners here and in Russia, doing the same kind of work and working even more hours in Russia than in the United States; their diet in Russia is very poor in proteids, while in the United States (from my per-

1. Chittenden's "Physiological Economy in Nutrition."

sonal observation in Westville, Illinois), a miner consumes from 2 to 5 pounds of meat a day.

Dissatisfaction with this method suggested experimental work on individuals to get to the amount of food necessary for the real physiological needs of the body—not more and not less, because in both cases the organism in a long run will have to suffer, as over-feeding has its punishments as well as under-feeding. Carl Voit in 1889 reported an experiment on two vegetarians conducted by E. Voit and Constantini. 48.5 grams of proteid was sufficient in these cases to maintain the nitrogen balance. Hirshfeld, a young man of robust physique, experimented on himself and found he could maintain nitrogen-equilibrium on 45 grams a day. Experiments lasted 15 and 20 days. Kumagawa experimenting on himself and in his studies of the diet of the Japanese (a purely vegetable diet) found that 54.7 grams of proteid daily was enough to keep the nitrogen balance. Nakahama in the same year reported his observations on the diet of 13 German laborers in Leipsig. He found that their food contained on an average 85 grams of proteid. Carl Voit criticised these reports and found them of no value, as the men were of comparatively light body weight and not well nourished. Carl Voit's experiments on human beings are limited to 15 cases, each experiment being continued for from 1 to 3 days. The result in each case being a negative nitrogen balance; this still more confirmed Voit in his belief of the necessity of the high proteid intake. The attention given by the scientific world to those experiments is due only to the great name of Carl Voit. The incompleteness of the experiments, the illogical conclusions made by Carl Voit would never have been known to the world had it not been for Voit's name connected with them.

The experimentations in this direction, notwithstanding Voit's attitude, were forcing their way towards a low proteid intake. Kellner and Mari, Caspari, Klemperer, Peschel, Caspari and Glaessner, Siven (Scandinavian) and many others in their experiments reduced the proteid intake from Voit's 118 grams to 80-70-60, and even as low as 45 grams. Voit and many other physiologists were all the time objecting to any diminution of the daily standard of 118 grams of proteid. Though Voit's voice in the question of diet was still predominant, the germ of rational experimental investigation settled in the scientific minds, and the investigations for the finding of the minimum amount of proteid food necessary for our organism are still going on and yearly with greater vigor. But, as is always the case, opposing views do not stop so easily, and the cry of "Safety First" was raised.

In 1893 the celebrated experiments of Munk and Rosenheim were published. They fed dogs on a low proteid diet, but with an abundance of carbohydrate and fat. The dogs after 6 to 8 weeks suffered loss of weight, strength and vigor; absorption from the alimentary tract was diminished; gastric and intestinal diseases developed, followed by death of the animals. These experiments have strengthened in the minds of Voit's followers the idea of the necessity of keeping up the high proteid standard for the human being. Chittenden commenting on these experiments says: "If these results were really due to the low proteid diet, they suggest a grave danger, which must not be lightly passed by." And in analysing further the fatal results of the above mentioned experiments, he comes to the conclusion that the death of the animals was due to the monotony of the diet and to the abnormal hygienic or sanitary conditions under which the dogs were kept. But the main cause of the fallacy of these experiments, I think, lies not in the supposed explanations of Chittenden, but in the fact that a carnivorous animal, adopted by Nature to a high proteid intake, was fed on an unnatural and abnormal diet, and naturally nothing but disease and death could be expected from such procedure. But to apply this deduction to a human being which does not belong to the class of carnivora is the highest folly any intelligent man can conceive. All the other experiments of the defenders of the high proteid intake are simarly illogical or incomplete.

While medical science can point out an array of ailments due to an excess of proteid in our food, nobody of the investigators could find any pathological condition in subjects who lived on a low proteid intake for years. Voit himself in describing the vegetarian under his observation states that he (the man) was well nourished, had well developed muscles, and experienced no disagreeable effects, though he lived for *several years* on a low proteid intake (51½ grams) and

was found by Voit in nitrogenous equilibrium. Jaffa's experiments and observations[2] on the fruitarians of California, including men, women and children, show that they were kept in nitrogen balance on a daily intake of 10 grams of nitrogen (62½ grams of proteid) for a period of 5 to 8 years.

But the crowning work in bringing the collapse of Voit's dietetic standard must be credited to our own R. H. Chittenden and to the Danish Hindhede. Chittenden in his classical experiments conducted for months on different classes of men has proven that they were kept in nitrogen equilibrium on 60 grams of proteid daily. His book on "Physiological Economy in Nutrition" has especially drawn the wrath of the English Sir James Crichton-Browne, the author of the book "Parsimony in Nutrition." If I will say that the value of this book is in its " noise-making" quality, and not in its sound scientific reasoning, I will have said all that can be said about it. Chittenden is well known in the scientific world through the work he has done, and I will say no more about him. Hindhede is the last comer on the field of scientific research about nutrition. It would not be amiss to say a few words about his personality. Born of poor parents, farmers in Jutland, and of weak physique, he studied medicine, and due to his poor health, began to pay attention to the question of diet and to experiment on himself, when he discovered the fallacy of the old theory of high proteid intake. For 16 years he continued experimenting on himself and others. His work became so widely known in Danish society that the government of Denmark built a laboratory for Hindhede's work and appointed five assistants and plenty of money to further the work of investigations into the nutritive economy of the Nation propagated by Hindhede.

He brought in quite opposite views than those held by Voit's school. He insists upon food of a low proteid value. He divides food stuffs into three classes, according to their importance for the human organism.

1. Potatoes and roots, bread and other cereals, fruit, butter (cow's butter, margarin, cocoa-butter, lard).

2. Milk, eggs, young vegetables and pulses (spinach, brussel sprouts, young cabbage, green peas, green beans, etc).

3. Heavy or old vegetables (cabbage, carrots, turnips, onions, old beans, etc.), peas, beans, sugar and meat.

Hindhede started his experiments with potatoes and butter three times a day and between meals strawberries and a small amount of milk. When starting he decided to drop this diet as soon as the slightest disagreeable symptoms appeared. But one week passed, and two and three more and not only did he not get weaker, but felt better, stronger, and with greater endurance in his physical (bicycle riding) and mental work. His favorite food became potatoes, looked upon until now as one of the poorest foods, especially since the classical experiment of Rubner on the Bavarian soldier. This experiment continued for three days. The soldier was ordered to eat 3½ kilograms a day (4078 grams). To make it more pleasant for the soldier this amount of potatoes was served in different forms, boiled, fried, mashed, etc. The order was faithfully fulfilled by the soldier; he was eating all day long and tried to get rid of it as quick as possible. The result of it was intestinal fermentation, diarrhea several times a day and once or twice in the night, and a loss for the three days of 3.1 grams of nitrogen. Rubner thought that this loss would continue and stopped the experiment. Since, the renown of the potato was spoiled, Hindhede experimented with the potato for 40 days, using only 2533 grams. In Rubner's experiment the excrements (feces) daily were 635 grams. In Hindhede's only 92 grams. Why such a difference? Because, says Hindhede, he ate when he was hungry, chewed his food carefully; 100 grams in 4 minutes, and stopped eating as soon as hunger was gone, i. e., did not over-eat or over-stuff himself. While Rubner did not succeed in bringing the soldier into nitrogen equilibrium on 4000 grams of potatoes, Hindhede has done it on 2533 grams. If in his 40 days' experiment he would have stopped on the 4th day he would have been compelled to come to the conclusion that living on 2000 grams of potatoes and 120 grams of butter, and losing daily 19 grams of nitrogen, he is undergoing a physical loss and degeneration which would bring him to sure

[2] U. S. Department of Agriculture, Bulletin No. 132.

death; but here is what the following 36 days showed:

From 16th to 20th of May minus 2 grams, therefore, for 4 days lost 8 grams.

From 20th to 28th of May, no grams.

From 28 th to 5th of June, minus 2 grams, therefore for 8 days lost 16 grams.

From 5th to 13th of June, minus 2 grams, therefore for 8 days lost 16 grams.

From 13th to 21st of June, plus 5 grams, therefore for 8 days plus 40 grams.

In other words, instead of losing, a complete nitrogen equilibrium was established. During these 40 days of potato experiment the daily average of proteid taken in was 40 grams, of which only 32 grams was assimilated i. e., the proteid intake was four times less than Voit's standard. The subject of the experiment was a strong healthy fellow, 26 years old, weighing 68 kilograms, working as a laboratory porter from 6 a. m. to 10 p. m., in the same time he was messenger and had to take long bicycle rides. And this was not a single experiment but repeated on other persons for longer intervals. Hindhede's experiments show conclusively that it takes a certain time for the organism until the nitrogen equilibrium is established independently of the amount of proteid taken in, whether 200 or 30 or 40 grams. The mistake of the previous physiologists was that seeing the deficit of nitrogen they too early stopped their experiments.

Hindhede with his experiments does not want us to think potatoes and butter is an ideal diet. He is far from it. The main thing he was after was to get at the minimum of proteid food necessary. He himself for years lived healthily on from 50 to 60 grams of proteid a day. The California vegetarians lived for years on 70 to 80 grams a day. Albu's vegetarian woman for 6 years lived on 34 grams of proteid a day on which she regained her lost health and continued in good health. I will not discuss now what Chittenden's and Hindhede's work means from the economical point of view. I brought before you the present status of science in relation to the proteid intake in our nutrition. I think enough has been done in this direction to allow us practising physicians to use the deductions of the experimental work in our daily advice to our patients, and so far as I am concerned, or rather as my experience is concerned, I have yet to see a pathological condition induced by a low proteid intake.

INDICATIONS FOR CHOLECYSTECTOMY AND CHOLECYSTOSTOMY.*

CLIFFORD U. COLLINS, M. D.
PEORIA, ILL.

In the surgery of the gall-bladder the surgeon must strive first, to obtain an operative recovery for the patient, in which the patient passes through the operation safely; and second, a symptomatic recovery, in which the patient is relieved of all the symptoms caused by the disease. It is not sufficient in this modern time to be satisfied with an operative recovery only.

In the early days of gall-bladder surgery up to a few years ago, surgery was considered only for the most serious and patent forms of gall-bladder disease, the terminal forms of the disease, such as acute cholecystitis, severe gall-stone colic, and hydrops of the gall-bladder.

It has only been in recent years that the surgical treatment has been applied to patients suffering with the chronic, and more insidious forms of gall-bladder disease.

In the first class of acute and manifest gall-bladder disease, the patients are very ill and suffer acutely, while in the second class of chronic gall-bladder disease, the patients are not in so much immediate danger to their lives, but suffer more or less constantly from some distress and soreness in the right upper abdomen and from secondary symptoms which may be located in the stomach, intestines, joints, heart, chest and brain.[1] About two years ago I went over the records of the patients who had been operated on by Dr. Weber, my associate, and myself for diseases of the biliary tracts. A group of 196 patients, who had been operated on for diseases of the biliary passages, were chosen and letters were sent to them, in an endeavor to find out the ultimate results of the surgical treatment.

This investigation was instituted primarily to try and determine in what conditions the gall-bladder should be retained and drained (cholecystostomy) and in what conditions it should be removed (cholecystectomy).

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*Read before the Warren County Medical Society, at Monmouth, Ill., Nov. 12, 1915.

1. Babcock, W. W.: Journal A. M. A., October 23, 1915.

It was an endeavor to find out our symptomatic results that prompted us to send out letters to our patients.

On the 196 patients represented in the series there were done 147 cholecystostomies and 30 cholecystectomies. It will be seen that 17 per cent. were cholecystectomies, which is a much lower proportion than is reported by some surgeons.

The truth is I have started the investigation to prove that those surgeons who were reporting the removal of the gall-bladder in 80 per cent. of their patients suffering from gall-bladder disease, were entirely too radical; but I ended by convincing myself that 17 per cent. of cholecystectomies was not giving our patients the best ultimate results.

Letters were sent to the 147 patients who had recovered from the cholecystostomies asking if they had had any trouble with the gall-bladder or stomach since the operation. One hundred and two replied. Seventy-four said they had been perfectly well so far as their gall-bladder and stomach were concerned. Fifteen complained of some pain in the gall-bladder or stomach, or both, while thirteen complained of still having severe pain at times in the region of the gall-bladder or stomach or both.

Thus we found that twenty-eight, or 27.4 per cent.—more than one-fourth—of the one hundred and two patients who had had a cholecystostomy done, who had replied to our letters, were not entirely relieved from their symptoms. It is interesting to note that our results were almost the same as Swope's[2] who reported 74.8 per cent. cures after cholecystostomy, or 25.2 per cent. who were not well afterwards.

The records showed that 85.2 per cent. of those patients operated on by us had gall-stones, and some of the remaining 15 per cent. had acute cholecystitis; so we had only operated on a very small per cent. of patients having chronic cholecystitis without gall-stones.

We felt that this proportion was too small and that we must have been too conservative or too timid regarding this class of cases. The conscientious surgeon dislikes very much to subject a patient to an operation unless he feels that he will find at the operation sufficient pathologic evidence of the necessity for the operation. We had evidently not operated until the evidence was most convincing that we would find ample cause for the operation.

In this series were ten patients on whom we had operated and found a seemingly normal gall-bladder and had closed the abdomen without doing anything to the gall-bladder.

We are satisfied now that some of these ten patients, if not all, had diseased gall-bladders. Their symptoms persisted after the exploratory incision.

A few years ago we were all taught, and believed, that a thin-walled blue gall-bladder was a normal gall-bladder. We now know that this is not necessarily the case. Probably the best method of determining a diseased gall-bladder when there is any doubt after the abdomen is open, is by examining the glands along the cystic and common ducts, as pointed out by Mayo[3]. If they are enlarged the gall-bladder or pancreas is infected. But the gall-bladder may be infected even if they are not enlarged.

About the time we were conducting this investigation a patient came to us on whom a diagnosis of cholecystitis had been made. The operation revealed a blue thin-walled gall-bladder which looked so normal that we decided a mistake in diagnosis had been made and closed the abdomen after removing the appendix. Her symptoms were not relieved. She complained of mild attacks of pain and soreness in the right upper abdomen. After keeping her under close observation for several weeks we found that she had a temperature of 99° to 99½° nearly every day. At three different times her white blood count was 24,000, 18,000, and 17,000. Thus there were definite indications of an infective process in the body and the local distress and tenderness pointed to the gall-bladder. Another operation was advised and accepted. When the abdomen was opened the gall-bladder still had a seeming normal appearance and the glands along the cystic and common ducts *were not enlarged*. However, nothing else could be found to account for the symptoms so the gall-bladder was removed. It proved to be a "strawberry" or chronically inflamed gall-bladder and the appearance of the mucous membrane gave plain macroscopical evidence of the disease.

However, the information given by these

2. Swope, L. W.: Amer. Jour. Obst., November, 1915.

3. Mayo, C. H.: Trans. Western Surg. Ass'n, 1913.

glands is so generally correct that they furnish a very valuable means for determining an infected gall-bladder after the abdomen is opened.

These letters we sent out revealed another interesting thing. Many of our patients were seemingly perfectly well for about a year after the gall-bladder was drained. After that period they began to have distress and discomfort in the region of the gall-bladder, again. At least three years should elapse before a patient is pronounced cured after a cholecystostomy. One of our patients was a physician in whom we found gall-stones and removed them and drained his gall-bladder. At the end of a year we received a letter from him saying that he had been perfectly well during that time. Two weeks after he wrote the letter he was taken with distress in the right upper abdomen with a sensation as though something was being squeezed in that region. Several of our patients have described this squeezing sensation. Some describe it as a "drawing" sensation. We have found that it means a cholecystitis. This physician was in another part of the country and after suffering several months he had his gall-bladder removed by another surgeon with complete relief of all his symptoms.

As I stated before, the investigation was started with the intention of proving that we had been correct in making cholecystostomy the operation of choice, but the results of the investigation, together with some experiences with patients similar to those narrated above, convinced us that cholecystectomy should be the operation of choice, and I think today we are removing the gall-bladder in fully 85 per cent. of the patients coming to us with gall-bladder disease.

One of the objections urged against cholecystectomy is the greater mortality in that operation as compared with cholecystostomy. A cholecystectomy is undoubtedly more difficult to do than a cholecystostomy, but this is like a great many other things. We have found that frequent operations by a definite technique reduce the difficulties and danger very much.

A glance at the anatomy of the gall-bladder enables one to see, readily, why a few days drainage at the top does not cure a chronic inflammation. The gall-bladder is a sac with a small tortuous passage leading from it. It is so tortuous that one can hardly ever pass a probe through it, at least that has been our experience. The bile must find its way out with some difficulty. When the bile is thickened with mucus or the products of inflammation, the difficulty is increased. We all agree that when an appendix is strictured so its contents cannot easily escape, it had better be removed. When the contents of the gall-bladder are thickened by chronic inflammation, or the lumen of the cystic duct lessened by the inflammation extending to its mucous membrane, that gall-bladder had better be removed. A few days drainage at its fundus is not going to permanently relieve the chronic inflammation.

Then the indication for cholecystectomy would seem to be a chronic inflammation of the gall-bladder with or without gall-stones.

In acute cholecystitis, with or without gall-stones, it may be better to do a cholecystostomy, with the reservation that a cholecystectomy will be done later should the inflammation persist and become chronic.

If the patient has a stone in the common duct with a suspicion of pancreatitis, a cholecystostomy may be a wiser primary operation. In greatly debilitated patients a cholecystostomy is simpler and safer until improvement warrants a cholecystectomy.

In patients having gall-stones without inflammation, a cholecystostomy may be done. However, in those patients it may be that in the future we may open the gall-bladder and remove the stones and close the opening with sutures. This was done on three patients in this series. The gall-bladder contained one stone, which was discovered during an abdominal operation for other causes, and did not appear to be diseased. A so-called "ideal cholecystostomy" was done, the gall-bladder being opened, the stone removed, and the incision in the gall-bladder snugly closed with sutures. The three patients made an uneventful recovery.

I feel sure that in the near future the chronically infected gall-bladder, causing more or less vague secondary symptoms, will be searched out, diagnosed and removed before the terminal stages, such as gall-stones, hydrops, empyema, perforation and gangrene have been reached.

CONCLUSION

1. The presence or absence of stones in the gall-bladder should not be considered in deciding to remove or leave a gall-bladder. It is entirely a question of infection.

2. An infected gall-bladder had better be removed if there are no contra-indications.

3. The location of a stone in the common duct may be a factor in the decision. If it has caused a recent attack of jaundice, a possible pancreatitis should be considered, and, if present the gall-bladder should be retained and drained, at least temporarily.

4. An acutely inflamed gall-bladder due to a virulent infection, evidenced by the clinical symtoms, had probably better be retained and drained. A cholecystostomy is safer in these acute cases than a cholecystectomy. A cholecystectomy may be safely done after the acute symptoms have subsided, if it is necessary.

5. The small proportion of gall-bladders which contain stones with no present evidence of infection, may be drained, although it may be safe in these to open the gall-bladder, remove the stones, and close it without drainage.

6. The general condition of the patient may make a simple cholecystostomy the wiser procedure until the general condition improves.

7. The history is not only the largest element in making the diagnosis, but is also of great importance in deciding the question of removing or retaining the gall-bladder. If the history shows persistent symptoms, indicating chronic infection, that gall-bladder had better be removed.

8. In spite of these conclusions it takes the highest surgical judgment to decide, at times, which will give the most ultimate benefit to the patient, the retention or removal of his gall-bladder.

;

What gift has Providence bestowed on man that is so dear to him as his children?

Let's oftener talk of the noble deeds and rarer of the bad ones, and sing about our happy days, and not about the sad ones.

The way to gain a good reputation is to endeavor to be what you desire to appear.

In speaking of persons, if you cannot say a pleasant word, say nothing.

Dr. E. M. Webster, for more than twenty-five years in Chicago, well known in the fields of medicine and surgery, and at present one of the trustees of the Chicago Medical Society, has recently removed to Oconomowoc, Wis. He goes to this new field as Medical Superintendent of Edgemoor Sanitarium, an institution recently established, owned and controlled by a Board of Trustees composed of leading business men of Chicago, Buffalo and Detroit.

This is a private sanitarium and will be devoted to the treatment of so-called "subjective insanity," or "psychic subjectivity," including various forms of delusional insanity, but especially those forms arising from subjective suggestion.

During the last twenty years Dr. Webster has devoted himself to a critical study of the subject of insanity in all its various aspects. His experience has convinced him that a large percentage of the cases of insanity generally classed as "incurable" will yield to treatment; and he hopes to demonstrate to the medical fraternity the truth of his convictions through his work in this new institution, and promises to report results, from time to time, through the columns of this Journal.

We shall await with interest his reports, and in the meantime wish him every success in his new field.

IODINE IN PNEUMONIA.

In Medecin de Paris, February, 1914, Professor Fontoynont, head of the Medical School at Tananarivo, collaborating with Doctor Rotou, Superintendent of the Tananarivo Hospital, dwells upon the value of colloidal iodine in the treatment of pneumonia:

"By employing colloidal iodine," he says, "we have succeeded in reducing the mortality among our pneumonia patients to the European level and in shortening the sojourn in hospital to one-third of its former length.

"We have injected colloidal iodine intramuscularly without causing either pain or reaction. In some cases we have administered doses of 20 centigrammes of colloidal iodine. It seems to us that this dose should be increased to 40 cgm. and 2 cc. respectively, to produce still better results."

Concluding, Fontoyont expresses the belief that "Colloidal Iodine, if administered in adequate doses, promises rapid defervescence in pneumonia; shortens the attack; diminishes the mortality percentage, and prevents most of the usual complications."

Conceit is to nature what paint is to beauty. It is not only needless, but impairs what it would improve.

Every failure teaches a man something if he will learn.

What you leave at your death let it be without controversy, else the lawyers will be your heirs.

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MARCH, 1916

Editorials

A PHYSICIAN IN THE LEGISLATURE

On another page will be found an article by Dr. W. F. Burres, member of the House of Representatives from the 24th District. Dr. Burres has been doing excellent work in the legislature, and is positive there should be more doctors sitting in the House of Representatives. Every doctor should read this article, and then make an effort to elect other doctors to similar places in the legislative body of the state. The doctor read this paper before the Champaign County Medical Society, and the *Champaign County Gazette* gave an unusually good report of the meeting, quoting Dr. Burres' paper quite extensively. If more work of this sort were done, it would be much easier to enact favorable medical legislation.

DINNER IN HONOR OF DR. JAMES A. CLARK.

On Thursday evening, February 24th, the Medical Fraternity of Chicago chose to honor one of its members, Dr. James A. Clark, ex-president of the Chicago Medical Society.

Dr. Clark has a host of medical friends, and these with others outside of the profession were glad to show in this manner appreciation of Dr. Clark's work as president of the Society, of him as physician, and of him as their friend.

Dr. P. J. H. Farrell acted as toastmaster, and toasts were responded to by Dr. Charles J. Whalen, Judge Hopkins, Dr. A. J. Ochsner, Dr. Sadie Ray Adair, Dr. A. A. O'Neil, Dr. John Dill Robertson, and Dr. I. C. Gary.

Dr. Clark responded by expressing appreciation of the honor conferred upon him by making him president of the Society, and by tendering him the banquet, and thanking them all for the hearty support given him during his administration.

He then expressed the hope of seeing Chicago the greatest medical teaching center of the world. If this hope is realized it will come about because of the work started by Dr. Clark.

After this part of the function was over, the remainder of the evening was spent in dancing and renewing old acquaintances.

CANCER COMMISSION MEETING.

President Lillie announces a meeting of the Cancer Commission, created at the last meeting of the Illinois State Medical Society at the Beardsley Hotel, East St. Louis, Monday, May 15.

All members of the Society who are interested in the subject of cancer, especially such as have made a bacteriological study of the pathology, are invited.

THE TYPHOID SITUATION IN CHICAGO.

The heavy rain January 20-21 caused pollution of the water supply at the 68th street pumping station. The Department of Health issued immediate warning to "BOIL THE WATER" to the papers and by telephone to all schools in the district affected. It also advised the use of typhoid vaccine by all who had used the water. February 1-7, of sixteen cases of typhoid reported in the city none were in this district. February 8-14, eight cases out of nineteen were in the district. February 15-21 thirty-six out of fifty-four, and February 22-29, forty-six out of sixty-five were in the district. Less than twenty per cent. of the city's population resides in this district.

To understand the situation it is necessary to review the method of disposal of the district's

sewage. From 39th street south to 83rd street all sewers empty into an intercepting sewer. At the south end the sewage flows by gravity from 83rd street to 73rd street. A pumping station at 73rd street forces this to 39th street, where it is pumped by the Sanitary District Plant west on 39th street to the south branch of the Chicago river. From this point it follows the south branch to the drainage canal.

The shutting down of the 39th street pumping station by the Sanitary District at the time of the heavy rain caused the sewage to back up and put the 73rd street station out of commission and, incidentally, caused a seepage of sewage into the pumping wells of the 68th street water plant. Strenuous efforts were made January 21 to avoid this danger by the use of fire engines stationed at 73rd street, which pumped the sewage out of the sewer at that point onto the open prairie.

In the *Bulletin* of the Department of Health of February 26, the advice was repeated to use the vaccine prophylactic and the newspapers were posted from day to day as to the condition of the water.

The responsibility for stopping the pumps at 39th street is a heavy one for the Drainage District organized as it was for the very purpose of safeguarding the city's water supply.

THE ANNUAL MEETING.

To the Editor:

At a meeting of the Champaign County Medical Society, held in the parlors of the Beardsley Hotel on February 11, the committees appointed to make arrangements for the meeting of the Illinois State Medical Society to be held in this city, May 16, 17 and 18, next, reported gratifying progress, and all are looking forward to one of the best and largest sessions in the history of the organization.

Champaign has good railway facilities, is on the main line of the Illinois Central, leading from Chicago to Cairo, and an I. C. branch running west; a spur of the Wabash R. R. connects with the trunk line of that road at Sidney; the Big Four runs through our city connecting us with Peoria on the west and Danville on the east. In addition to these steam roads the Interurban connects with Danville to the east and St. Louis southwest.

Besides two commodious, first-class hotels, the Beardsley and Inman, Champaign, has five or more, smaller ones, where good accommodations can be had at cheaper rates.

With these facts in mind it can be said that no one need walk to get here; neither will one have to sleep under a tree after one arrives.

CHAS. B. JOHNSON,
Chairman Com. Arrangements.

ENTERTAINMENT FOR THE MEMBERS AND THEIR LADIES AT THE MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY TO BE HELD AT CHAMPAIGN, ILL., MAY 16-18, 1916.

Tuesday, May 16—Twilight band concert, South Campus, University of Illinois, 6:30 p. m. A. A. Harding, director.

Wednesday, May 17—Luncheon for ladies at Women's building, University of Illinois, 1 p. m.

Wednesday, May 17—Organ recital at auditorium, University of Illinois, 7 p. m.

Wednesday, May 17—Moving pictures of Illinois as exhibited at the Panama exposition. Address by President Edmund J. James, under supervision of Geo. A. Zeller, M. D., Board of Administration, at Auditorium, 8 p. m.

Thursday, May 18—Official visit to University of Illinois, 2 p. m.

Regimental drill, 16-17-18, 4 p. m.

A. S. WALL, Secretary,
Local Committee.

A TRIBUTE TO DR. HENRY BAIRD FAVILL.

BORN AUGUST 14, 1860. DIED FEBRUARY 20, 1916.

ARTHUR M. CORWIN, A. M., M. D.
CHICAGO.

Medicine, politics, education, civics, culture, philanthropy—all of these have lost a mighty advocate in the untimely death of Dr. Henry Baird Favill.

It is rarely indeed that we find a physician well posted in the history of his profession and in vital touch with the proof sheets of medical science; extremely busy as a practitioner, enjoying the confidence and patronage of a large private practice and much in demand as a consultant; an able lecturer to medical students; a

leading spirit upon many important committees working for the national betterment of the profession and the public; a dominant force in economic, political and philanthropic movements; occupying numerous positions of trust; a writer and speaker of force, widely interested in human affairs. Such a man was Dr. Favill.

He was a splendid fellow in every way. If foes he had, they must have been hostile to his high ideals or jealous of his leadership rather than hostile to him. Personally he attracted men by his virile traits, his wise diplomacy, his fine sense of humour, his kindly attitude toward humanity, his ardent friendship for all outdoors and his keen interest in living things.

Blest with a rugged constitution which defied strain and stress, he was a man of commanding presence. When he rose to speak in any assembly, his tall, magnificent physique, athletic bearing, handsome face and features full of character aroused anticipation of what he had to say which was never disappointed. In later years, by much practice, he had mastered a clear, trenchant style of expression which went to the heart of things. Coupled with a natural power of eloquence, exceptional command of language and a voice full, resonant and musical, Dr. Favill had a certain grace and force about him that carried conviction and spoke for leadership.

He was proud of the Indian blood that flowed warm and red in his arteries; and I doubt not that the charm which Nature and outdoor life had for him and his love of animal life were part and parcel of this heritage.

In going he has left a void which it will be difficult to fill by any one individual. He has left a wide circle of real friends and ardent admirers in all walks of life. He has left a permanent impress of his life and character upon our times. Nor shall his noble influence cease with his going.

No one may do his best by slavishly imitating another; he can only be himself at best. But great men and women are invaluable sources of suggestion in developing the finest and strongest gifts we have. Dr. Favill sought to develop himself in service of others. He lived his own life in his own way. His personality was all his own. To emulate this attitude shall be worth while.

Go forth to be thyself, Oh, Man!
Seek not to ape another's plan;
For imitation crude but meets
The needs of noisy parakeets
And monkey folk, a thumbless nation,
With thumbless grip upon creation.
Go be thine only self, with will,
And thus thy destiny fulfill.

MEDICAL PREPAREDNESS.

Self-preservation is the first law of nature. This is one of the axioms of human wisdom that is so plain and simple as to be often forgotten. The man, the organization, or the state, which is not ready to defend its existence, is not worth perpetuation and will surely fail; for there are always others, not only prepared for defensive, but also for aggressive action.

But, we are told, the consciousness of justice should be a sufficient security. So it would, did all men accept this dictum as a rule of action and conduct. Unfortunately, the world has not yet reached that lofty plane; there are men and nations, which by their actions, if not in plain words, proclaim that success is the only criterion of ethics; that might makes right. We had almost thought that idea past, but now the times give it proof. To such as hold no law except the law of force, force must be applied.

We all believe that war is a return to the barbarism of past ages; that it is the sum of all evils; and surely no one in this country would be bold enough to defend an aggressive war. But the time may speedily come, as it has come in the lives of other nations, when we must resort to force in order to maintain our existence, or perish as a nation. The examples of other nations whose existence is threatened need not be sought in history, they are before our very eyes.

There are pacifists among us who deprecate all talk of force, even as a last resort; yet it is doubtful if anyone of them actually believes his own doctrine. Should the great apostle of peace himself return to his home at night to find the house being ransacked by a burglar, it is true that he would probably not grapple with the thug and engage in a desperate personal contest; that would be unpleasant. He would merely step to the telephone and call a burly policeman; who would come prepared with both club and gun. Should he capture the burglar he would apply

another and very severe form of force in the shape of a prison. The peace apostle, although perfectly peaceable and just in his quiet home, has been obliged to resort to force in order to enjoy that peace. He and all other preachers of peace will approve of such a resort to force. It should hardly be necessary to point out that an army bears precisely the same relation to the nation that a police force does to the city. It is not maintained in order to attack any peaceful and law-abiding individual; but to protect the law-abiding from those who own no law. Preparedness is not only a right, it is a positive duty. He that protects not his own is worse than an infidel.

What is the especial part of the medical profession in the general duty of preparedness? It has several fields of action; in some of which it is already active and in others only slightly so.

All activities of the medical body leading to better hygiene, better health, the elimination of infectious diseases, the segregation of the unfit, and in general, the improvement of the human animal, contribute directly to preparedness. Physical efficiency lies at the very foundation of military efficiency. The medical profession has always taken the lead and largely carried on this work. The majority of the infectious diseases have been brought under control; many eliminated. The propagation of all of them has been restricted. The death rate of the civilian population has, in three centuries, been reduced from fifty to fifteen. The span of human life has been extended from twelve years to forty-five. The death rate of armies (from disease) has been reduced from twenty or thirty per cent. per annum to one or two per cent. All of these things contribute to military efficiency—provided advantage is taken of them.

There is another means of contributing to the defense of the country, open to medical men as well as others, and a highly important one. It consists in lending aid and influence to all patriotic societies, to such organizations as the boy scouts, to all institutions and measures designed to inculcate and preserve patriotism. While this side of national defense is not quite so basic as physical efficiency, it is fully as important. No nation has ever maintained itself long by means of a hired army. When the Roman army became a force of paid mercenaries Rome was near her fall. The real defense of any country must be in the patriotism of its people; they must be willing to sacrifice not only wealth, but health and even life itself in order to maintain their homes and institutions inviolate. This country might today have a paid army of a million men and still not be safe. A paid force of a certain strength is always necessary, but the main reliance has always been, and will always be, the great body of citizens. When it comes to the last ditch every man must take his gun and go. It appears that in England some would not do that, voluntarily. It is to be feared there are similar men in our own country. So the religion of patriotism must always be taught.

These are general lines of effort for any and all medical men. There are others more special and specific. More today than ever before fighting is a highly skilled trade or profession. It can no more be picked up over night than the trade of a carpenter or the profession of a civil engineer. One might as well collect a dozen men at random and put them up to play ball with a national league team, as to send out raw volunteers to fight trained veteran troops. The comparison is not at all strained. Further, the situation is vastly complicated by the tremendous size of armies today. Formerly armies were numbered by tens of thousands, or at most by hundreds of thousands; today an army of less than a million men is hardly considered to be worthy of notice. Manifestly with increase of numbers come increase of difficulty in managing, in cooperation, in supply, in handling the wounded, in everything.

It is believed by those competent to judge, that in any war with a great nation we should need an army of at least one million men; in all probability this would only be a beginning. We had a million men under arms in the spring of 1865, fifty years ago. For this army there would be required ten thousand medical officers. We now have 450 regular medical officers, about the same number in the militia, and about 1,500 medical men in the medical reserve corps. Most of the latter have little or no training. They are reserves only in the sense that they have qualified in professional knowledge and have signified their willingness to serve in case of war. The surgeon-general of the army could instantly put his finger on so many men. Still some eight thousand men in addition would be required,

and for these no provision has as yet been made. The greater part of the medical corps would have to be raised by volunteers or otherwise. Such has always been the case. In the Spanish war nine out of every ten medical officers were volunteers; and in the Civil war nineteen out of every twenty. While speaking of the present medical reserve corps it should be noted that the medical corps of the army is the only corps or department that has any reserve body of officers of any kind.

Here then is work for medical men who have a military or patriotic inclination. The Army Reorganization Bill, now before Congress, will provide for a greatly enlarged medical reserve corps; either separate or as part of a general officers' reserve. It will be sufficiently large to officer the army required. It is believed that some plan for regular and adequate instruction and training will be provided, with pay for the time so spent. Also it is expected that rank will be granted, for service and training, up to and including that of major. All these features should prove acceptable and aid in securing a large corps of trained medical officers, ready to take the field at once in case of war, and in some degree prepared to render something more than mere professional service.

The training may begin with something like that at the Plattsburg cap, but will doubtless be improved and broadened until it becomes a real school of field service. While a month spent each year in such a camp would break into a practice, yet should the custom become general one would suffer no more than another; and, it would seem that a man sufficiently patriotic to make this sacrifice might secure some compensating reward. In England, before the present war, many medical men held positions in the territorials, taking part in the training periods; it is not believed that they suffered on account of the time so lost from their regular work.

The militia, or national guard, will almost certainly be improved and increased, giving positions to a certain number of medical men, requiring more time, but possibly more desirable than those of the medical reserve corps. The Red Cross Association seems also to be entering on an era of wider organization and greater activity than ever before. The Red Cross Societies of the European countries are carrying on vast works, and are not able to respond to all calls on them. In our own country any great war would find our prepared medical organizations, however well planned, unable to completely cope with the situation. The Red Cross Association would have an abundance of work to do. Field and base hospitals should be organized and prepared for work. The United States, although the richest nation in the world, has been behind all others in the organization and preparation of units for immediate work in war.

The conditions in the world are today more grave than they have been in the memory of any man now living. The danger to our country from without is greater today than it has ever been before; and that danger seems to be increasing daily. We are in far more danger of war right now than was England on the first day of July, 1915. We fervently hope that war shall not come to us; but, hoping is not enough. The man whose buildings are in danger of fire does not stop with pleasant hopes. He prepares against what *may* happen. Let us do likewise, and let the medical profession be not behind.

THE NATIONAL BOARD OF MEDICAL EXAMINERS.

A Voluntary Organization.

The following report is given rather completely because of the importance of the subject, and because in the plan proposed there are several very undesirable features. While the organization has a worthy object in view, its proposed plan is impracticable because of legal obstacles. Probably no state licensing board could legally recognize certificates from such a voluntary, self constituted organization. Our members should read this report carefully. Because of lack of space, editorial comment will be reserved for a future issue.

At the joint session of the Council on Medical Education of the American Medical Association and the Federation of State Medical Boards of the United States, held in Chicago on February 8, 1916, the entire session was devoted to a symposium on "The National Board of Medical Examiners."

Dr. William L. Rodman, president of the American Medical Association, outlined the aims and purposes of the National Board and among other things said:

What are the reasons for a national board? Everyone will admit the impossibility of having a uniform standard where there are fifty states, some of these states having multiple boards. It is to protect men

who on account of ill health or sickness in their family, or for some other reason, wish to change their location that the national board provides them with a certificate which they can file away, and we hope in time will be accepted in many or all states of the Union. We cannot have a compulsory national board since the police powers are with the state, but a voluntary board is certainly feasible and can have general acceptance. It only requires reasonable concessions from the existing agencies. A national board to deserve and secure general acceptance, must maintain a higher standard than a board whose examinations can legally be made compulsory. The law contemplates and enforces only ordinary and average standards, so that this voluntary board should be placed on a much higher standard. A man does not have to take the examination of this board if he does not want to, and therefore the standard can be and should be made higher than if it were a compulsory board.

Should such a board be controlled by the government or be a federal body? The answer is that it is neither possible in fact nor desirable in theory. As a central board cannot have the endorsement of the government it should be allied with a teaching foundation of high standard and of national scope. This boarc is allied with the Carnegie Foundation, one of the widest scope, one which has done excellent work in elevating the standards of general and preliminary education. The Carnegie Foundation has given the board $15,000 a year. The Army Medical Museum has provided spacious rooms for conducting the examinations in a building which contains the largest medical library and one of the best collections of pathological specimens of America. These are available to the applicants while in Washington preparing for the examination. The Army and Navy medical schools and laboratory of the Public Health Service offer more than ample facilities for conducting a thorough oral, written and laboratory examination in all of the branches, including specialties. The laboratory for operative surgery in the naval school is easily the best we have seen. The chemical laboratories in each of the three government services are both commodious and complete. The Roentgen departemnts are well appointed, and there are abundant miscroscopes, dark rooms for the use of ophthalmoscopes, etc.

The clinical advantages offered in the government hospitals could not be better or more varied. The full capacity of the several government hospitals is about 5,000 patients, certainly sufficient to offer every facility for clinical examination.

The greatest advantages which Washington offers over other places is that an assistant or substitute for any one of the regular examiners could be furnished on short notice, as there are specialists in all departments, members of the respective corps, detailed in the schools and laboratories and free from the demands of private practice. The board consists of fifteen members. The constitution has been amended to provide for two additional representatives from the Federation of State Medical Boards as soon as vacancies occur in 1918. Then six members will represent the government services, and three will represent the Federation of the State Medical Boards. The remaining six members will be chosen at large, with due reference to geographical distribution, but not necessarily representing any association.

The personnel of the National Examining Board is as follows: Admiral W. Clarence Braisted, president; Gen. W. C. Gorgas; Gen. Rupert Blue; Col. L. A. LaGarde, U. S. A., treasurer; Dr. W. S. Rucker, U. S. P. H. S.; Dr. E. R. Stitt, U. S. N.; Dr. Isidore Dyer, New Orleans; Dr. Victor C. Vaughan, Ann Arbor; Dr. W. L. Rodman, secretary, Philadelphia; Dr. Herbert Harlan; Dr. E. Wyllys Andrews; Dr. Henry Sewell; Dr. Austin Flint, Jr., and Dr. Horace D. Arnold.

Following Dr. Rodman, the relationship of the National Board to the Federal government medical services was discussed by Dr. W. C. Gorgas, surgeon general, U. S. Army; Dr. W. C. Braisted, surgeon general U. S. Navy, and Dr. John W. Kerr, representing Surgeon General Blue of the U. S. Public Health Service.

Dr. W. C. Gorgas: The formation of this National Board has been of great interest to the medical department of the army as a possible medium of increasing our reserve corps. . . . A bill at present before Congress contemplated bringing the regular army, ultimately, up to nearly a million men. The proper manning of this number of men on a war footing would require about 10,000 medical men. . . . I think the National Board of Medical Examiners will be a great measure for recruiting our reserve corps. . . . So far as the army is concerned it will certainly be supported.

Dr. W. C. Braisted: The idea of a central examining board whose certificate should be of such high character that its acceptance by every state, territory and possession of the United States would be assured has been in the minds of many of the profession for the past twenty years. We medical officers of the navy feel that physicians should be entitled to practice within our own country at any time and place. As medical officers of the navy our duties are constantly shifting us from place to place, bringing us under ever changing conditions at the most unexpected times. In times of emergency, in war or disaster, in situations in which no other professional help is available, we feel that we should be protected by some provision of this kind to make our services of full value to the nation. The possession of a certificate of the national medical examining board by an applicant for the Naval Medical Service would undoubtedly be of great value in showing his fitness for the medical corps of the navy, in either the active or the reserve corps.

What has been outlined describes in the main the relationship of the navy to the national medical examing board. The navy has no special relationship with

the contemplated board. In national movements the services are frequently, almost daily, called on to assist and help to establish and organize measures for the nation's welfare and advancement. This movement to establish a national medical examining board is one of these great endeavors for the country's welfare, and it thus becomes our duty, as servants of the people, to attempt to aid by every means in our power your efforts in this direction.

Dr. John W. Kerr, for Surgeon General Rupert Blue: Surgeon General Blue desires to do whatever he may to elevate the requirements and the standing of those engaged in the practice of medicine. He feels that by reason of a movement of this character it would be possible for our diplomas and requirements in this country to be accepted in greater degree by other countries. It is the desire of Surgeon General Blue by every means possible to stimulate interest in the advancement of the public health and encourage and stimulate the medical profession to engage in this work to a greater degree.

The surgeon general's connection with the board must of necessity be one of unofficial character. He believes that eventually it will be practicable by this means for the government to recruit for the services to which I belong and to provide for greater interest in public health work and to favor appointments in time of epidemics without additional examination.

Dr. Herbert Harlon, president of the National Examining Board of Maryland, in speaking of the relationship with state medical licensing boards, said:

Protection of the people is a state police function, and without an amendment to the constitution of the United States cannot be taken over by the national government. Such an amendment is not to be hoped for. State medical examining boards must continue, but as a large number of state boards (forty-one) have the legal authority to recognize, as a sufficient guarantee of fitness, examinations conducted by boards of other states—examinations in regard to the conduct of which, in many instances, little is known and nothing inquired into—there is no legal objection to a change of statute granting a state board authority to recognize the certificate or diploma of a national board as sufficient evidence of medical qualification; but only if, in the good judgment of the state board, the examinations, written, oral or practical, conducted by the national board are of such a character as to justify its acceptance.

Early in December I wrote to the secretaries of sixty-three boards and fifty-three states and territories, asking whether each board had the power to accept the examination of a national board in lieu of their own examination. Forty boards (in thirty-eight states) answered "No," and four "Yes"; two were doubtful and two noncommittal.

In reply to the question whether the board would be wiling to license physicians who had passed the national board's examination without requiring them to take their own, seventeen replies were received, eight negative and nine affirmative. Twenty-three states would be willing to ask their legislatures to amend the laws so as to give them power to do so.

The answers to another question show that the present organization of the board and its plan of continuance is satisfactory to twenty-three and unsatisfactory to six, while thirteen would like some modifications.

To summarize, only a few boards have legal authority at this time to accept the national board, probably eight. Of those having no authority, however, 71 per cent. expressed themselves willing to ask for legislation enabling them to do so.

It is expected that each state board will exact the same fee for recognition of the examination of the national board that they do now for the recognition of the license by another state.

The success of this movement to establish a national board of medical examiners depends on the acceptance of its certificates of proficiency by all, or nearly all, of the various state boards.

Doctor Victor C. Vaughan, in discussing educational standards, said: "It is a matter of great importance what standards are adopted by this examining board after it goes into existence and begins its work. In the first place, we will expect that those who come before the board shall have had a fundamentally broad education; that each applicant shall at least know how to use his own language or the English language correctly. In the second place, it will be expected that for scientific and medical purposes at least, each applicant shall know either German or French or both. So far as the physical sciences are concerned, there can be no question that medicine is nothing more or less than the application of the facts of biology, physics and chemistry to the prevention and cure of disease.

It is the unanimous opinion of the members of this prospective board that at least two years of college work, in addition to the high school course, should be demanded for admission to an examination before this board. To demand less would be to go back. As we have been told, nine states already demand and three states more have notified that they will demand it, and there is scarcely any doubt that within a few years the majority of the states will be demanding it.

Opening the general discussion on this proposition, Dr. C. St. Clair Drake, Secretary and Executive Officer of the Illinois State Board of Health, presented the views of the Illinois board, based on opinions rendered by the Attorney-General of Illinois, and offered a substitute plan for the standardization of examinations for medical licensure such as could be adopted by practically every state without amendment of existing medical practices acts:

"There can be no controversy as to the advantages which would accrue to the members of the medical profession if there could be devised some plan whereby one medical licensure would permit practice in any and all parts of the United States. The continued efforts throughout the years to establish and extend inter-state reciprocity in medical licensure bears evi-

dence of a firm and growing acceptance of the value and justice of such an arrangement.

Every fair-minded person, interested in the uniformity of medical standards or in the removal of the irksome restrictions now imposed upon physicians, must be in sympathy with the aims and purposes of the National Board of Medical Examiners. There can be no question as to the ability of such a board made up of men of the best professional reputation and representing organizations which stand for the highest standards in medicine—to perform the proposed function in the most satisfactory manner.

Legal obstacles, however, such as have always stood in the way of nation-wide licensure by the Federal Government, remain in Illinois, as well as in other states, as barriers to participation in the plan of the National Board.

Under the Illinois law the State Board of Health is charged with certain specific duties relative to examination and licensure of physicians and it has been repeatedly held that duties and authority so imposed cannot be delegated to extra-governmental organizations. Certainly under existing Illinois law, the State Board of Health could not turn over its examining and licensing function to the National Board of Medical Examiners, nor could the State Board of Health accept the certificates of the National Board in lieu of examination as prescribed by law.

Waiving the question of the grave dangers entailed in seeking new legislation or of disturbing the present Medical Practice Act, the passage of which, in its present form, was accomplished with considerable difficulty—it is doubtful whether the power lies with the General Assembly to so amend the present law or to pass a new one which would make such action possible.

The General Assembly has countenanced the acceptance of licenses issued by legally constituted authorities of other states and nations under certain definite conditions; but this is vastly different from the recognition of the action of an organization, however excellent, having no governmental authority whatever.

While the permanency of the National Board of Medical Examiners is not questioned, it is none the less a voluntary organization which may terminate its existence at its pleasure or which may alter its plans and methods without official sanction or legislative enactment.

I do not want this comment to be misconstrued, nor the belief to be entertained that the Illinois State Board of Health is not in hearty accord with the purposes of the National Board, or that there is the slightest lack of confidence in that organization. The view expressed is that which must apply to all extra-governmental agencies contemplating in any way the assumption of governmental function.

In fact, in an opinion recently rendered by the Attorney-General of Illinois, it is definitely stated that any law enacted by the General Assembly providing for the delegation of the examining and licensing power to an extra-governmental organization of any kind would be construed as class legislation and would consequently be declared null and void.

I am impressed that, so far as Illinois is concerned—and I believe that this applies to other states—the desired ends must be attained through concerted action on the part of the several state examining and licensing bodies, and I do not feel that it is unreasonable to expect that such successful concerted action can be secured.

The following suggestive plan has been given serious consideration by the Illinois State Board of Health in its efforts to determine upon some means which would, in harmony with existing state laws, guarantee practically those benefits and reliefs which the National Board of Medical Examiners proposes to afford.

It would be entirely consistent with the medical practice acts now in force in many of the states to create a general conference or commission of medical examiners, to be made up preferably of the various state examining and licensing boards. This conference or commission could formulate its own rules by which each state board could have equal voice with any other in the control of the organization. These rules would also specify the manner in which medical examinations would be conducted in the several states; the subjects to be covered and the relative weight or importance to be given to each subject included in the examination. The rules would be such as to guarantee, as far as practicable, absolute uniformity in character of questions, arrangements of subjects and detailed methods of examination to be employed by all boards party to the conference or commission.

The rules thus formulated would be presented and adopted as the rules of the individual states, so that in each state they would become the legal and official rules.

One of the important functions of the commission would be the preparation of examination questions for use by the component boards. A sufficient number of physicians—members of the different boards—would be assigned to the preparation of the questions.

The questions so prepared by the commission would be transmitted in sealed packages to the various states in which examinations are to be held and could be formally adopted by the individual boards, the seals not to be broken, however, except in the presence of the assembled candidates for licensure.

In the opinion of the Attorney-General of Illinois, there can be no legal objection to the adoption of the questions in the manner set forth.

The examination in each subject could be held simultaneously in all the different states, allowance being made, if deemed necessary, for the difference in time in the various sections of the country. Absolute certainty that there could be no communication between the various sections of the country as to the nature of the questions, could be guaranteed by a rule which would require all candidates to remain in the examination room until the last papers are completed or the examination period ended. Such periods, extending at least three hours, could be be-

begun simultaneously by local time without chance of leakage in any way. The examination begun on the Atlantic seaboard at 9 a. m. would not be completed by 9 o'clock Pacific time, when the candidate in the most western state would have begun his examination.

It would be thoroughly practicable and legal to permit the presence at each examination of a representative of the Conference resident of another state to note every detail of the examination and to report back to the commission, provided the individual board declares its examination public and not private. While such a representative would be without official authority in the individual state, and would be present merely as any other visitor, his reports to the Conference could receive due consideration in determining the good standing of the board conducting the examination.

Under the Illinois law, and doubtless in other states, the examination papers must be graded by the Board of Examiners of the state in which the examination is given. Even the submission of the papers to any other body, although that body might have official existence, is legally construed as an addition to the test definitely specified in the present law. While it is thus impossible to delegate the grading of the paper, the papers and grades can be open for inspection, at the discretion of the board, and the commission could unofficially review such documents to detect any irregularities or any preferences shown to candidates by the individual states. Such irregularity or undue liberality in grading could be reported to the Conference, and, while this would not be a basis for reviewing or in any way affecting the grades already given the individual, it could form the basis of determining the good standing of the offending board with the Commission, and if need be of terminating the co-operative relationship.

In this way there could be obtained absolutely uniform written examination and relative uniformity in grading the results of such examinations and this would be accomplished under the laws now in force in most of the states.

While it would not be practicable, perhaps, by this Commission to adopt all of the features proposed by the National Board of Medical Examiners, the results could be made generally satisfactory. As I understand it, certain minimum educational standards have already been adopted by the National Board. It is doubtful if these, as they now stand, could be adopted by the Commission under existing state laws; but there is no reason why, with the medical examination absolutely uniform and the rating relatively so, the individual state should not accept those candidates passing the examination and presenting evidence of the preliminary and professional education required by the state.

For example: Suppose the State of New York requires, as a pre-requisite for licensure, high school education, one year of collegiate education and one year of hospital internship; on the other hand, suppose that Illinois requires high school graduation and one year in college, but does not require internship. Assume that two candidates are licensed in Illinois through the examination given by the Commission. The first of these has served as interne, while the second has not. There is no reason why New York should not accept the one, as meeting the New York requirements and reject the other as failing to meet such requirements.

Incidentally it should be pointed out that, if the various states were empowered to accept the services of the National Board of Medical Examiners, vigorous opposition would be encountered on account of the failure of the Board to accord representation in its membership of the other recognized schools of medical practice. In fact, it is more than likely that if the delegation of the examining function to the National Board of Medical Examiners would not in itself cause a law to be regarded as class legislation, this failure to recognize all schools of practice by that body would do so.

Regardless of our individual opinions on this matter, it cannot be lost sight of that the various sectarian schools have jealously guarded their rights and interests in the various states and would relinquish their present represention in the individual states only upon the assurance of equal representation on the proposed national board, and, the law-making bodies of the various states would, in most instances, look favorably upon this demand for representation, as they have almost invariably done in the past.

In connection with the proposed Commission made up of the state examining bodies, the fact that such commission would not receive examination fees raises the question of financing its work. It would be possible under the present Illinois law for the State Board of Health to pay to the Commission an agreed sum for each set of questions necessary for the examinations. I cite what can be done in Illinois because many of the states operate under laws which, in many details, are quite similar to the Illinois law. As I see it, practically the same results can be obtained by the Commission here briefly outlined as by the National Board of Medical Examiners, with the essential difference that the former could operate in harmony with the laws now extant in Illinois and elsewhere, while the latter, being purely an extra-governmental and voluntary agency, in the opinion of the Attorney-General of Illinois, cannot be utilized lawfully by Illinois and certain other states.

A brief summary of the discussion which followed at the evening session of the Federation of State Medical Boards is herewith presented:

Dr. C. E. Cantrell, Texas: The protection of the people of a state is laid at the door of the Governor. This is true of most, if not all states. The Governor appoints the board. His office is a political one. It is the duty of the board to prevent men from entering the practice of medicine who have not been properly educated and who are not qualified. Where is the difference between the examination that is to be

given by this national board of examiners and its staff and an examination of any first class university or college? It seems to me the great danger lies in the multiplicity of standards.

Dr. Arthur G. Hume, Michigan: Every member of a state board should think as to what he considers his duty. As a representative of the Michigan State Board, my primary duty to the people of the State of Michigan is to so aid in administering medical affairs in the state that all of the people will receive the most effective service from the medical profession in that state. According to the opinion of the Attorney-General of Michigan, we cannot as members of the State Board recognize the certificates of a national board.

Dr. T. J. Crowe, Texas: On such a national board let us have three Federal men, and twelve representatives from the Federation of State Examining Boards of the United States. Let us call it a Federal board, so that we know what we are getting. It seems to me starting with six men picked from the Federal service, and only three men from the state boards, is a mistake. There should be a larger representation from the Federation of State Examining Boards of the United States.

Dr. E. J. McKnight, Conn.: It is a good thing to have a national medical examining board. I have no criticism to make of its personnel. If the Council on Medical Education should report favorably on this national board at the next session of the American Medical Association, I shall vote for it.

Dr. S. L. Jepson, W. Va.: The national board has placed the standard too high. The examinations held by the different public services are much more rigid than those held by the state boards. When this high standard is announced through the medical journals it will lead to a failure of the national board.

Dr. H. W. Abraham, Wis.: The State Board of Wisconsin has the greatest confidence in this movement for a national board. When the matter was published in the Journal of the American Medical Association, and the board was named and a résumé of the standards exacted, our board as a unit moved to accept the licenses of this board if in every way they came up to the standard required in Wisconsin.

Dr. James W. Holland, Philadelphia: The argument in favor of a national board from the standpoint of the army and navy and the Public Health Service was not simply to make it an adjuvant to the recruiting departments of the army and navy. It is very likely we are about to enter on a system of preparation for war which will necessarily include a large body of trained medical men, whom by the most varied and searching tests are known to be qualified to take care of our young men before and after they have been on the firing line. They are to be in the reserve corps, and it is not simply those in the standing army, which is relatively small, but in that army which we may be called to summon at any time and which may require thousands of men.

Dr. W. T. Gott, Indiana: The weakest spot in our system of legislative enactments is the lack of uniformity, but this is the first time to my knowledge that a proposition has been made to give legislative functions to a voluntary board. If that doctrine were applied to other matters in which there is a lack of uniformity, we would have voluntary boards instead of legislative congresses. While such a body composed of distinguished educators would perhaps be better than anything we now have, it is contrary to the spirit of our government.

Dr. H. H. Grant, Kentucky: The object of this national board is to give every ambitious young man the advantage and opportunity to get the approval of the highest tribunal that can be established. It gives those who hold certificates from this board prestige everywhere in the United States.

Dr. Walter L. Pierring, Iowa: There has been criticism with reference to the manner in which this board is constituted; nevertheless its purpose is in keeping with that the Federation of State Medical Boards has been discussing and working for since it was organized. I presume that the real purpose of this board will be to standardize examinations. These standards may be a little too high, but they will, at least, establish a standard for examining licentiates to which all states can approximate. It would appear that this is a pioneer movement to which we should all subscribe.

Dr. Alexander Marcy, Jr., New Jersey: New Jersey is heartily in sympathy with this movement for a national board. We believe it is a step in the right direction. I am glad indeed to give my unqualified approval to this movement, to the personnel of the board, and to what it hopes to do.

Dr. John M. Baldy, Pennsylvania: Who says it is a legal body? What is the reason such is necessary? No one pretends that this national board is a legal body. Their actions are not claimed to be legal, but they are looking to you to make them legal. Pennsylvania is going to make this proposition legal. Pennsylvania has the power; you all have the power.

Dr. Isadore Dyer, New Orleans: The board has submitted its case to representatives of all sections of the United States and to men who stand for all phases of medical education and state medicine. The members of the board in coming before this aggregation of intelligent men do not wish them to misunderstand their motives in presenting this case. The board has been organized for the specific purpose of submitting and putting through a standard of medical education. The plan which they have submitted has been devised by a comparatively small group of men who have acted with their best intelligence.

The discussion tonight has been of the sort which was to be expected. No movement which stands for progress can succeed without reasonable objection. If this body tonight had had no discussion and had unanimously endorsed the board, I believe some of us would have felt the board was not nearly so strong either in its motives or methods as we had hoped it might be. The opposition to it speaks for its strength.

There is no member of the board who does not welcome honest criticism and honest suggestions with a view to improving its motives and its methods. If it is possible to put the board on a legal basis it will be done. It is the intention of the board to solicit the best advice it can get to that end. If it is not possible to place it on a legal status, I believe I speak for the board when I say that it is the intention to go ahead on the standard which it proposes until it wins its way by the right and justice of its function.

TUBERCULOSIS NOTES.

The most important indication in the treatment of tuberculosis, by whatever method, is rest, mental as well as physical.

Every case of tuberculosis must be treated as an individual case. There is no general treatment for all cases.

In 1905 $5,000,000 was spent in the anti-tuberculosis movement; in 1915, $22,500,000. In 1880 death rate was 326 per 100,000, in 1913 it was 147.6.

Consumptives should be prohibited by law from marrying. Their children almost invariably become subjects of tuberculosis, and often charges of the state.

The prevention of tuberculosis in children is the treatment of the parents. If parents are healthy and strong, their child will almost surely escape this disease.

The child must be protected in his home if we wish to prevent tuberculosis in adult life.

Diseased teeth are excellent culture tubes. Germs introduced with food, drink and kissing find here an excellent media.

If we were able to prevent tubercular infection in childhood, we would soon see the end of tuberculosis.

A constantly accelerated pulse with elevation of temperature calls for an investigation of the reason. It will often be found in the lungs.

An increase of the whispered voice means tuberculosis present.

Tuberculosis of the larynx can often be prevented by giving your patient the following rules:

1. Always breathe through the nose. If unable, have nose attended to at once.

2. Refrain from abusing the voice by shouting, singing and excessive talking. Slightest hoarseness calls for immediate and complete rest of vocal chords.

3. Cough as little as possible.

4. If subject to colds or sore throats, seek prompt medical attention.

5. Abstain from the use of tobacco and alcohol. Both irritate the larynx.

Pituitrin has been successfully used for the treatment of pulmonary hemorrhage.

6. Slightest trouble in nose or throat calls for immediate investigation and attention.

FREE LECTURES ON TUBERCULOSIS.

Given by the Chicago Tuberculosis Institute at the City Club of Chicago, 315 Plymouth Court.

Lecture 1. Monday, March 6th, 6:30 p. m., "Bacteriology and Pathology of Tuberculosis," J. H. Corper, M. D.

Lecture 2. Monday, March 13th, 6:30 p. m., "Sources and Channels of Tuberculous Infection," G. A. Gekler, M. D.

Lecture 3. Thursday, March 16th, 6:30 p. m., "Prevalence and Distribution of Tuberculosis," Theodore B. Sachs, M. D.

Lecture 4. Thursday, March 23d, 6:30 p. m., "Tuberculous Infection in Childhood," O. W. McMichael, M. D.

Lecture 5. Monday, March 27th, 6:30 p. m., "Contributory Factors in the Development of Tuberculosis: "Personal and Public Hygiene," John Ritter, M. D.

Lecture 6. Monday, April 3d, 6:30 p. m., "Contributory Factors in the Development of Tuberculosis: Industrial Hygiene," James A. Britton, M. D.

Lecture 7. Thursday, April 6th, 6:30 p. m., "Schools and Tuberculosis." Sherman C. Kingsley.

Lecture 8. Monday, April 10th, 6:30 p. m., "Present Status of Medical and Specific Treatment of Tuberculosis," Ethan A. Gray, M. D.

Lecture 9. Thursday, April 20th, 6:30 p. m., "Hospital, Sanatorium and Dispensary Control of Tuberculosis," J. W. Coon, M. D.

Lecture 10. Monday, April 24th, 6:30 p. m., "City Program for the Control of Tuberculosis," James Minnick.

Public Health

FOR HEALTHIER BABIES.

COUNTY MEDICAL SOCIETIES AND WOMEN'S ORGANIZATIONS JOIN HANDS FOR AN ILLINOIS "BABY HEALTH CONFERENCE WEEK."

"Baby Week" will be observed throughout the United States March 4 to 11. Illinois will do its part.

"Baby Health Conference Week"—a sort of follow-up campaign of a practical character—is on the calendar for May 8 to 12.

Originally it was the plan to feature baby health conferences in the program of baby week, but considering the facts that March is our month of bad weather, quite impassable roads and the season of greatest prevalence of communicable diseases, it quite properly was decided to delay the state-wide conferences to a time when conditions will be more favorable to the purpose. Accordingly, the week May 8-12 has been designated "Baby Health Conference Week." Another argument in support of this change of program is that it offers something in the way of a definite follow-up program for "Baby Week" and thus will tend to sustain interest in the baby saving movement to that season of the year when active work is most needed and usually begins.

To this end the State Board of Health has addressed communications to all women's organizations and to all the county medical societies of the state asking their cooperation in promoting and carrying out a baby health conference in every county during the week of May 8-12. The response to this suggestion has been so general and enthusiastic as to assure the success of the movement.

Details of the plans for "Baby Health Conference Week" will be made known on application to the State Board of Health.

IMPORTANT RULINGS AFFECTING BIRTH AND DEATH REIGSTRATION LAW.

In order to best serve the people, reducing inconvenience to a minimum, and thus facilitate the early successful operation of the new birth and death registration law, the following rulings have been announced by the State Board of Health:

BURIAL PERMITS MAY BE OBTAINED FROM ANY REGISTRAR UNDER CERTAIN CONDITIONS: Any local registrar may act as sub-registrar for any other local registrar and in his capacity as such sub-registrar he may issue a permit for the burial or removal of the body of any person who has died in a district other than his own; Provided, that he shall first have obtained consent and authority for each such issuance from the registrar of the district in which the person died or the body was found, and, Provided further, that he shall agree to immediately forward the death certificate upon which the permit was issued to the registrar of the district in which the death occurred or the body was found.

BURIAL PERMIT ACCEPTABLE FOR DISPOSAL OF BODY IN ANY DISTRICT: A burial permit regularly issued by a legally appointed local registrar, sub-registrar, or deputy registrar of Illinois, shall be accepted as authority for burial or other lawful disposition of the remains of the deceased person thereon named, in any lawfully conducted cemetery or burial ground in the state of Illinois; Provided, that the local ordinances of a city, incorporated town or village within whose corporate limits the cemetery or burial ground is wholly or in part included, are not in conflict with this rule.

NEW QUARANTINE RULES FOR EPIDEMIC MENINGITIS AND MUMPS.

NOW IN FORCE THROUGHOUT ILLINOIS.

EPIDEMIC MENINGITIS.

Reports: Immediate reports to local health authorities required.

Placarding: Premises occupied by patient must be placarded with red warning card of prescribed size and design.

Quarantine: Close quarantine required; no person may leave premises during quarantine; visitors strictly prohibited. Quarantine will be raised only after case terminates and two negative cultures at three day intervals from patient and one negative culture from attendant and all other inmates of premises are obtained and premises are disinfected. Quarantine in epidemic meningitis cannot be terminated with safety without resort to laboratory examination of cultures. It can only be terminated by the local health authorities.

Exclusions from Schools and Public Gatherings: Patient must be excluded for at least one week after quarantine has been raised. Persons removed from infected premises and those exposed to the disease must be excluded until cultures obtained from nose and throat have been determined by laboratory examination to be negative.

Removals: No inmate of infected premises may be removed therefrom or from place to place without permission of local health authorities.

Deliveries of Foodstuffs: Milk and other foodstuffs shall be delivered to premises without contract between delivery agent and inmates of premises, and no container, mail or other article shall be taken away from the infected premises during quarantine.

Sale of Milk and Foodstuffs on Infected Premises Prohibited: No milk or milk products, groceries, vegetables or other foodstuffs shall be sold or removed for sale or distribution from any premises on which epidemic meningitis exists until quarantine of the premises has been terminated.

Disinfection: After the death or recovery of the patient and after laboratory examinations have determined that none of the inmates of the premises are "carriers," the premises must be thoroughly disinfected under the direction of the local health authorities.

Burials: The body shall be prepared as in other communicable diseases and the funeral shall be private. Flowers sent to infected premises must be destroyed after removal of body.

MUMPS.

Reports: Immediate reports to local health authorities required.

Placarding: The posting of the usual warning card is not required.

Quarantine: Patient should be isolated from all other members of household for period of 21 days. Visitors must be excluded from premises, but adult inmates of premises may go about their usual business.

Exclusions from Schools and Public Gatherings: Children of family who have had mumps and who hold physician's certificates to that effect may be permitted to attend school. Children of the family who have not had mumps must be excluded from school, Sunday school, theaters, picture shows and all other places of public gatherings for 21 days following date of last exposure.

Removals: Patient shall not be removed from infected premises without permission of local health authorities.

Disinfection: Upon termination of the case, the

sick room and contents must be disinfected. Room must be thoroughly aired, floor and woodwork scrubbed, bed clothing and all articles coming on contact with the patient must be boiled or immersed in a standard disinfecting solution.

Burials: Body must be wrapped in sheet soaked in a standard disinfectant and then placed in an air-tight coffin.

STATE BOARD ISSUES NEW BOOK ON BABY CARE.

Copy to Be Sent to Every Mother on Receipt of Birth Report.

Handsome Engraved Certificate of Birth Also to Be Given to Each Mother After Birth of Child Is Recorded.

A new book for mothers on the care of babies has just been issued by the Illinois State Board of Health. This booklet of thirty pages, under the title of "Our Babies, How to Keep Them Well and Happy," is most attractive in appearance and from cover to cover is teeming with that sort of advice and information which every mother, awake to the best interests of her child, seeks. Practically everything pertaining to the health and well being of the baby is discussed in a most interesting way and without the employment of technical terms.

Advance copy of this little booklet was placed in the hands of Governor Dunne for review and both he and Mrs. Dunne were so impressed with the value of the information therein set forth as to urge its placing in the hands of every Illinois mother. The Governor's letter approving the publication is as follows:

STATE OF ILLINOIS.
Executive Department,
Springfield.

February 24, 1916.

Dear Sir:—I have read with much care and very great interest the advance copy of the new booklet to be published by the State Board of Health, entitled "Our Babies; How to Keep Them Well and Happy," and it is my opinion that in placing this safe and sane information in the hands of the mothers of Illinois that you are rendering a service to the commonwealth and especially to our baby citizens, which must be of immeasurable benefit. Mrs. Dunne, who has mothered thirteen babies of her own, has also read it with much interest and joins me in the hope that a way may be found by which a copy of this valuable publication may be placed in the hands of every Illinois mother.

Yours very sincerely,
(Signed) E. F. Dunne,
Governor.

Dr. C. St. Clair Drake,
Secretary, State Board of Health,
Springfield, Illinois.

Under the new birth and death registration law the State Board of Health now receives and records every reported birth and it is the purpose of the Board on receipt of such reports to forward to each mother a copy of this new booklet together with a handsomely engraved certificate of birth, without charge. The booklet will be a source of great help and much comfort to the mother; the certificate of birth will be a legal document of inestimable value to the child, especially as he grows into manhood. Parents desiring to possess the certified copy of their child's birth record must first see that the birth of the child is properly recorded. Under no circumstances can a certified copy of a birth record be furnished until after the birth has been reported and recorded.

One of the striking characteristics of the new booklet is the number of catchy epigrams on babies. As these give some insight into the subject discussed in the booklet, a number of the most striking are herewith reproduced:

THE BABY IN EPIGRAM.

The first essential of living well is to be born well.

The beginning of life-saving should be at the beginning of life. Prevention of disease for later life doesn't mean much to the baby that has been permitted to die in infancy.

A well baby is a happy baby. A baby is never cross or fretful by its own choice.

There is no heritage of greater value than the sight of human eyes.

The baby is the only animal that can actually be benefited by an authentic pedigree. Pups and colts will never know whether they are registered or not.

The home is the center of sentiment. It should mean protection and health and happiness. There is not much joy in insanitary sentiment and dangerous protecting roofs.

Babies do not want silks and satins; but they want sunlight and sanitation.

A baby wants warmth, cleanliness and comfort. He isn't interested in mahogany or in polished brass.

A baby is a serious proposition. He isn't a doll to be dressed and undressed, bedecked and beribboned for the amusement of an overgrown girl.

We make our own clothes to suit ourselves. Why not make the baby's clothes to suit the baby? He cares nothing for style.

Many parents lament their inability to give their children "bigger opportunities." There is no occasion for such lamentation in regard to the out-door life—the "biggest opportunity" for the child to acquire health.

Among the few things unforgivable is the unwillingness of the mother to nurse her child.

The nervousness of the baby is often the reflection of the lack of poise on the part of the mother.

Living by rule is difficult. Living by luck is hazardous.

The dial of the scales is the Dunn or Bradstreet of the baby's career.

It is not so important to know how much fat a milk contains, as it is to know how much manure and filth it contains.

In dealing with milk, remember the advice of Mr. Punch: "In case of doubt, don't."

A little care for a little while every day will often prevent serious catastrophe.

Carelessness for a moment may cause regrets for years.

Every artificially-fed baby lives under a distinct disadvantage. Every care must be exercised to reduce this disadvantage to a minimum. Give the baby a chance.

The best food for the baby is mother's milk. The next best food is the milk of some other animal designed for the sustenance of the young.

Many babies have died because things have been taken for granted.

In dealing with a baby, make haste slowly. There is less danger of under-feeding than over-feeding.

The children who are the most unhappy are those who are most humored by over-indulgent parents.

There should be fair play between parents and baby. The baby should be accorded his rights generously and sanely. He should not be permitted to play the tyrant with those about him.

The subject matter of this booklet will first appear in the March issue of *Illinois Health News*, the official monthly publication of the State Board of Health, and will be distributed during Baby Week, March 4-11. Later a more elaborate issue in pamphlet form will be prepared and at least 100,000 copies will be distributed during "Baby Health Conference Week" in May.

Copies can be secured now on request addressed to Dr. C. St. Clair Drake, Secretary, Illinois State Board of Health, Springfield, Ill.

SCHICK TEST OUTFITS NOW BEING DISTRIBUTED BY ILLINOIS STATE BOARD OF HEALTH.

Available Under Circumstances Herein Stated.

The State Board of Health began the distribution of Schick test outfits to physicians and hospitals throughout the State of Illinois on February 20.

The early demand for these outfits exceeded expectations to such an extent as to cause the Board to issue a letter of information calling attention to the fact that the packages now available are designed for ten individual tests and that unless the applicant has as many as eight tests to make within a period of twelve to twenty-four hours after mixing the toxin and dilutent it would not be practicable from a post point of view to furnish same.

In explanation of the time limit for making these tests, it was pointed out that after mixing the toxin and dilutent the mixture will not be serviceable for tests beyond a period of twenty-four hours and then only when kept at a temperature of 45 degrees Fahrenheit or less.

Special attention also was directed to the fact that the Schick test package must be kept at a temperature of 45 degrees or less at all times and that under such treatment the life of the toxin, *prior* to mixture with the dilutent, would be at least four months.

The State Board of Health is highly gratified to note the very general demand for the Schick test outfits and it will be prepared to supply all orders falling within the requirements set forth in the letter of information.

The attention of those interested in obtaining further information regarding the technique and interpretation of the Schick test, is directed to Dr. Abraham Zingher's article, illustrated with colored plates, appearing in a recent issue of the *American Journal of Children's Diseases.*

Happiness is a habit—cultivate it.

Have nothing in your house which you do not either know to be useful or believe to be beautiful.

Office holders seldom possess retiring disposition.

STATE BOARD EXAMINATIONS.

Dr. C. St. Clair Drake, secretary of the Illinois State Board of Health, reports the *Results of Physicians' Examination Held in Chicago,* October 13-15, 1915. The total number examined was 107, of whom 86 passed and 21 failed:

PASSED.

College	Year of Graduation	Total No. Passed
Barnes Medical College	(1898)	1
Bennett	(1913, 1), (1914, 2), (1914, 1), (1915, 2), (1915, 16)	22
Chicago College of Medicine & Surgery	(1909, 1), (1913, 1), (1914, 4), (1914, 3), (1915, 3), (1915, 10)	20
Chicago Hospital College of Medicine	(1915)	2
Chicago Medical College	(1884)	1
Cornell University	(1915)	1
Eclectic Medical Institute	(1894)	1
Hahnemann, Chicago	(1914, 1), (1915, 1)	2
Harvard Medical School	(1899)	1
Jenner	(1914, 1), (1915, 7)	8
Marquette University	(1911, 1), (1914, 1)	2
Missouri Medical College	(1894)	1
National University of Greece	(1908, 1), (1912, 1)	2
National University of St. Louis	(1914)	1
Northwestern	(1914, 1), (1915, 3)	4
P. & S., St. Louis	(1908)	1
Rush	(1896, 1), (1915, 4)	5
Starling Medical College	(1884)	1
St. Louis University	(1914)	1
Tufts College Medical School	(1913)	1
University of Illinois	(1915)	6
University of Nebraska Col. of Med.	(1915)	1
University of Virginia	(1915)	1
		86

FAILED.

Bennett	(1914, 2), (1915, 4)	6
Chicago College of Medicine & Surgery	(1914, 2), (1915, 4)	6
Chicago Hospital Col. of Medicine	(1915)	3
College of Medicine & Surgery	(1910)	1
Illinois Medical College	(1910)	1
Meharry Medical College	(1908)	1
National University, St. Louis	(1914)	1
University of Iowa, Medical Department "R"	(1890)	1
University of Louisville	(1913)	1
		21

KERCHOO! 'KERCHIEF
BY ARTHUR M. CORWIN, A.M., M.D.
The germ that sneaks in a sudden sneeze,
And lurks in a cougher's wheezes.
Is a burglar bold who works through "a cold,"
And steals at his ease as he pleases.
But there's relief from this common thief,-
Capture the crook is the caper!
Just muffle the sneeze and catch the disease
In 'kerchief of cotton or paper.
Chicago Department of Health Cut No 321

Auto Sparks and Kicks

A NEW CARBON REMOVER

A mixture of kerosene and oil of camphor makes a good carbon remover. A pint of kerosene to 2 oz. of oil of camphor is the quantity ordinarily used, and this is sufficient for most motors. The liquid is poured in through the carbureter intake while the motor is running. To prevent stalling, the motor should be speeded up somewhat, and if there is still a tendency to stall, the rate at which the liquid is poured in should be reduced.—John Hawkins, Hawkins' Garage, Trenton, N. J., *Motor World.*

MAKING CUPS ACCESSIBLE

Grease cups are often placed on the torque tube, and it is usually the case that all four are difficult to reach. A simple method of making these more accessible is to cut a small door in the tonneau floor and place all four grease cups under it. Each cup connects with the point which it lubricates by a length of tubing.

The two cups which grease the ends of the yoke arm move with the car body, and therefore must be supported from the floor, but the two running to the two ends of the torque tube move with the latter, and therefore must be supported from it. Therefore, the former cups may be held in place by a small iron bracket bolted to the floor of the tonneau, and the latter must be carried on a bracket which is clamped around the front of the torque tube.

The covering to the opening in the floor may be supported by screwing projecting iron strips on the under side of the floor on two opposite edges. The cups should be placed somewhat below the floor level so that the cover may fit into place.—G. B. Cortelyou, New York.

EXPERIMENTS DISCOURAGED

Relative to the selection of a lubricant it should be borne in mind that no one grade of oil, no matter how pure, is suitable for all types of motors, because the methods employed for feeding the oil to the working parts vary considerably. It is for these reasons that the manufacturer or the agent of the car specifies a certain grade and thickness as best adapted to meet the mechanical and thermal conditions of the motor. It is for similar reasons that the use of a light or medium oil is recommended for winter and a heavier lubricant for summer.

WATER FOR BATTERIES.

The increased use of storage batteries due to electric starters and electric lighting makes it more imperative that the owner give that attention to the battery which it merits. One respect in which this is particularly true is that of adding the necessary amount of distilled water to keep the battery plates covered. Many owners think it necessary that acid should be added to the electrolyte as frequently as water. This is a serious error. With the new battery it is not necessary to add acid for the first six months of its use, but distilled water should be added regularly. In hot summer weather the battery should be inspected at least every two weeks and in colder weather once a month.

The best policy is to add distilled water, which can be secured at drug stores in gallon bottles at a nominal price. Those who do not care to take the trouble of buying it at the drug store can secure it by melting artificial ice. To those in the country who may not have either of these sources available, fresh rain-water will be entirely satisfactory. Do not use the rain-water collected during the first few minutes of the shower, when it contains more or less deposits from the roof of the building from which it is collected.—*Motor Age.*

"In determining the correct size of the tire and the proper inflation," says an expert with the Firestone Tire and Rubber Company, "it is important to know the weight of the car and its distribution on the front and rear wheels. Run front half of car on platform scales and make note of the weight. Then place only the rear half of car on scales, recording this weight also. The weight carried by each tire will be one-half of either of the respective amounts."

To avoid accidents from back-firing, when cranking, place the thumb against the index finger and take the handle between the four fingers and the palm of the hand. The hand thus opens readily should a back-kick occur. Always crank up—never down.

Society Proceedings

ADAMS COUNTY

The second meeting for the year 1916 was held on Monday, February 14, at 8:45 p. m., at the Hotel Quincy.

In the absence of the president and vice-president Dr. E. B. Montgomery acted as temporary chairman. Dr. L. Harrison Mettler of Chicago was the guest of the Society, and also the speaker for the evening's scientific program. Twenty-five members present and a visitor, Dr. Wheelock, who conducts a well equipped laboratory in the new Illinois Bank building, Quincy. Resolutions offered and adopted by the Madison County Medical Society endorsed, and a copy sent to representatives and the senator of this district.

Dr. Pfeiffer presented two interesting clinical cases. After these were examined, Dr. Mettler was introduced by acting president Dr. Montgomery. Dr. Mettler's subject was "Syphilis of the nervous system." Evidently, he had written a long article, but was so familiar with his subject, that he refused to refer to the many neatly written pages, which he held in his hand. He held the interest of his hearers from first to last. His points were well chosen, explained and proven. He said in part: "There is no pathognomonic clinical picture of syphilis of the nervous system. We must make our diagnosis on the pathophysiological symptoms, and if in addition to these, the four laboratory tests are positive, we can safely diagnose the case as syphilis of the nervous system. He touched lightly on the pathology, urged that diagnosis should not be made on laboratory findings alone, and then spoke about the modern treatment. Salvarsan and neosalvarsan may be used in conjunction with mercury, but give mercury quickly, promptly and early." Referred to "Swift Ellis" spinal injections; felt they were on the right track, but still in the experimental stage.

A general discussion followed, and many interesting phases of the subject were discussed. Dr. Mettler received many fine compliments and a rising vote of thanks.

A two-course luncheon was served in the private dining room, and the meeting adjourned.

ELIZABETH B. BALL,
Secretary.

CLARK COUNTY

February 10, 1916.

Society met in the Court House at 2:00 p. m., President Haslit in the chair.

Members present: S. C. Bradley, Burnside, Prewett, L. J. Weir, Haslitt, Mitchell, Ryerson, Johnson, S. W. Weir, Marlow.

Bradley reported a case of sudden death from carbuncle, probably due to infarct in lung.

R. A. Mitchell read an interesting paper on "Internal Secretions"; discussing diseases of the different ductless glands, giving detailed description of symptoms and treatment. Ryerson led the discussion which was participated in by several members. Two views were expressed: one that the giving of ductless glands of animals to patients is valuable in many cases of sickness, and the other that elimination and better nutrition of the patient do more good in most cases.

S. C. Bradley presented a paper on "Thyroid Enlargements" which started a spirited discussion and brought out many practical points in the pathology, symptoms and treatment of goiter and other diseases of the gland.

A program committee was appointed for 1916 as follows: L. H. Johnson, S. C. Bradley and R. A. Mitchell.

After making further plans for the baby contest the society adjourned.

L. J. WEIR,
Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting. February 2, 1916.

1. Heredity and Evolution.....C. L. Redfield
2. Present Status of the Operation of Decortication of the Kidney.....Filipp Kreissl

   Discussion.....{Geo. F. Suker; Jos. M. Patton}
3. A Few Observations in Epilepsy.....Edward F. Leonard

   Discussion.....{C. C. Ellis; Carl Rydin}

Regular Meeting. February 9, 1916.

1. Theory and Practice in the Treatment of Syphilis .....K. A. Zurawski
2. Surgery and Syphilis.....J. H. Carstens, Detroit, Mich.

   Discussion.....{Channing W. Barrett; Arthur W. Stillians; J V. Fowler; Wm. L. Baum}

Regular Meeting. February 16, 1916.

Joint Meeting of the Chicago Medical and Chicago Gynaecological Societies

1. Exhibition of Cases
   Report of Cases
2. The Beginning of the Birth Control Movement .....Prof. James N. Field, University of Chicago
3. Some Practical Aspects of Birth Control..... .....Rachelle Yarros
4. Simple Methods of Sterilizing Women by Office Treatment, Producing Chemical or Cautery Strictures of Uterine Opening of Fallopian Tubes .....Robert L. Dickinson, Brooklyn, N. Y.

Regular Meeting. February 23, 1916.

1. The Schick Test.....George H. Weaver
   Discussion.....H. N. Bundeson
2. The Origin and Development of Congenital Cleft Palate. The Treatment Essential to Establish Normality. (Lantern slides).....
   .....Truman W. Brophy

CHICAGO OPHTHALMALOGICAL SOCIETY MEETING OF NOV. 15, 1915.—Continued.

DISCUSSION OF GLAUCOUMA.

Dr. Frank Allport contended that glaucoma in a large proportion of cases was an expression of a general condition and he always insisted upon an absolutely thorough general examination of the patient. He believed a great many cases of glaucoma can be relieved by a proper diagnosis of a general condition and the relief of such conditions by appropriate treatment, together with the use of miotics. He hardly believed that Dr. Roy would advocate invariably the performance of any kind of operation upon the eye immediately he made up his mind that a glaucomatous condition existed.

With regard to the operation described by Dr. Roy, he had not performed it himself, but he intended to do so when an opportunity presented. Ophthalmologists were very much in the dark as to what they wanted to do in glaucoma. The present operations were not by any means satisfactory and ophthalmic surgeons had passed from iridectomy to various other procedures, such as the Lagrange operation, the Elliott operation, etc. The Elliott operation swept over the world like a cyclone a short time ago and everybody was doing it. The returns were now coming in from the Elliott operation. Late infections were reported and a great many were abandoning the operation. If one could get results from such a simple operation as the one that has been described, why not perform it? The Whorten operation appealed to him exceedingly and he was going to give it a thorough trial.

Dr. Francis Lane thought the success of the operation was due to the fact that the iris being spongy tissue, it afforded ample opportunity for a cystoid cicatrix to form and thereby take care of drainage beneath the conjunctiva.

Dr. George F. Fiske had never seen a case of glaucoma treated by miotics alone that recovered. He had seen patients on whom two or three or four iridectomies had been performed keep vision of from 20/20 to 20/30 for from twenty-five to thirty-three years. Personally if he had glaucoma he would be operated on at once; would have his general health attended to and miotics used the rest of his life.

Dr. Roy, in closing, said he had been misunderstood with reference to the use of miotics. When he found miotics were doing no good and the symptoms were getting worse it was a question of operation, and he used miotics as an adjuvant after operation. He had not used atropin after operation. He had never had an iris slip back into the anterior chamber in any case he had operated on.

SKIN GRAFTING; THE USE OF VASELINE IN CUTTING AND THE OPEN AIR TREATMENT.

Dr. Walter R. Parker, Detroit, Michigan, stated that after the surface had been prepared, the skin and knife were smeared with a thin coating of sterile vaseline. By this means the tendency of the skin to move with the knife was practically all eliminated, and one of the greatest difficulties in the successful cutting of grafts thereby obviated. As all his experience had been in correcting defects in and about the eyelids the grafts had been small, varying in size from twelve to twenty-five mm. to twenty-five to fifty mm. He could not see, however, why the same advantage would not obtain in grafts of any size. So far as he had been able to judge, the use of vaseline had not interfered with the healing process in a single case, nor had he seen a complication he could attribute to its use. His experience included twelve operations.

DISCUSSION.

Dr. Oscar Dodd had used vaseline on the knife to start the incision, so that it would not stick to the skin. He had always cut the grafts dry and applied them dry, but Dr. Parker's method of applying vaseline on the knife allowed it to slide through and make the incision better than he had been able to do.

Dr. Harold Gifford had never tried the use of vaseline, but was going to do so after what Dr. Parker had said. An opening dressing was good but not essential. If one put vaselin and aristol on wet cotton and after covering the latter with gutta-percha to prevent drying, put on a firm dressing, the graft would never peel off. He had always been able to stop the bleeding by pressing the flap firmly down on the raw surface.

EXTRACT OF CATARACT LEAVING AN UNDETACHED CONJUNCTIVAL FLAP OR BRIDGE ON THE TEMPORAL SIDE; ITS ADVANTAGES.

Dr. Frank C. Todd, Minneapolis, Minnesota, said his experience was limited to seventy-one operations in which this incision was used. The advantages over the use of a suture are obvious. The greatest advantage may be summed up in the word safety. It often happens after or during a cataract extraction and before the eye is closed that the lid winking over the eyeball catches on the lower lip of the wound, thus turning it over and outwards, sometimes permitting of the escape of vitreous, or at least interfering with the proper coaptation of the two edges of the wound, thereby endangering infection of the wound and vitreous, when the edge of the lid, so difficult to sterilize, rubs against the inner surface. This cannot take place when the conjunctival flap exists for the lid rides safely over the attached conjunctival flap and the cornea. There is less danger of escape of vitreous, and he has had a number of cases in which no vitreous was lost or where a little vitreous presented, in which he is confident a serious loss of vitreous would have occurred were it not for the presence of the conjunctival flap, and it proves a safeguard of especial value in unruly patients.

As to visual results the number of cases is not sufficient to draw any definite conclusions but both in the University Hospital cases and in private practice he finds that the average of visual results were better in the cases where the flap was undetached than was the case where the conjunctiva was detached. His experience leads him to believe that an undetached conjunctival flap is a procedure of preference in cataract extraction.

DISCUSSION.

Dr. William A. Fisher thought that if the members of the society would take a vote, it would be to the effect that

loss of vitreous was one of the most serious complications one could have during an operation and if the flap described by Dr. Todd would keep the vitreous back he had contributed a very valuable addition to the cataract technic. Loss of vitreous after the lens was born was of little consequence in any method of extraction if the lids were kept away from the eyeball, but loss of vitreous preceding the delivery of the lens was a serious matter to most operators. He thought that methods of removing the lens when vitreous had preceded it should be emphasized and much attention should be given to the pressure that might be given to the eyeball through the lids.

He was pleased to note that Dr. Todd did not remove the dressings for four days. If all has gone well after a cataract operation for four days it is safe to say that there would not be any objection to waiting four or five days more and allow the wound to heal more strongly. Dr. Todd is to be congratulated upon his uniformly good results, but he believed Todd could extract many of his lenses in capsule, providing he would try the pressure before rupturing the capsule. If there was prolapse of the iris he did not think it should be cut off until fourteen days after the operation on account of the danger of opening the corneal wound and inviting infection. When the prolapse is cut off fixation forceps should not be used, because a sudden movement of the eye caused by the pain might open up the corneal wound and invite infection. If the eye is not dressed for nine days infection will be rare.

PAUL GUILFORD, Secretary.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

A regular meeting was held December 20, 1915, with the president, Dr. Richard J. Tivnen, in the Chair.

A PECULIAR CORNEAL CONDITION.

Dr. J. A. Pratt, Aurora, Ill., reported the case of Mr. H., who came to him October 12 last with the following history: In April of this year, while feeding cattle, he was struck in the eye with a piece of cornstalk. The eye became red, sensitive to light, with scalding tears, but no other discharge. These acute symptoms lasted for two weeks and then subsided. At different times, until August 24, the eye would smart and tear. On August 24 patient consulted a physician, who gives the following history: "Mr. H. came to have his eyes fitted with glasses. The vision in each eye was 20/80, and with correction 20/20. In illuminating the pupil a well defined spot about the size of the diameter of a pin could be seen in the center of the pupil of the right eye. September 25 he returned to me with all the appearances of a well marked ulcer of the cornea, including a slight hypopion and a slight deposit on Descemet's membrane. I noticed that the central part of the ulcer or deposit in the cornea was not broken down as much as one would expect it to be, judging from appearances; inflammatory symptoms and purulent secretion present. I cauterized the central portion of the surface with carbolic acid and immediately observed that the surface was only partly broken down, since the size of the deposit was about the size of a medium pupil, while the depression was about the size of a pinhead.

"Under six days local and general treatment the ulceration and hypopion disappeared. As the inflammatory symptoms continued, I used atropin, one per cent, with no result, but with the crystal of atropin the pupil dilated completely and was easily maintained. The spot in the cornea remained, and in two weeks changed its shape from an oblong with long diameter perpendicular to an oval with the long diameter in a horizontal direction, without any change in the inflammatory symptoms."

(To be continued.)

DE KALB COUNTY

The DeKalb County Medical Society met in DeKalb, January 28, 1916. The meeting was called to order by the president, Dr. L. E. Barton.

Dr. Charles S. Bacon of Chicago, gave an instructive talk on "The Newer Methods of Managing Excessive Vomiting of Pregnancy." On motion of Dr. Rankin, a vote of thanks was given Dr. Bacon by the members present.

Communications were read by the secretary, and Dr. J. B. Hagey was elected Advisor to the Medico-Legal Committee for Dekalb County. The society then adjourned to meet on the last Friday in April at Sycamore.

J. B. HAGEY,
Secretary.

LAKE COUNTY

Regular meeting of the Lake County Medical Society was held in the Commercial Club rooms at Waukegan, Thursday, February 10, 1916, 8 o'clock.

This was our tuberculosis meeting and that quite an interest was taken was proven by the large attendance. Twenty members were present.

The Committee on Fee Bill reported and on motion the same committee was retained and instructed to present a revised schedule for the Lake Shore towns at our next meeting. Carried.

Motion to adopt resolutions as passed by the Madison County Medical Society relative to reciprocity for the members, carried unanimously.

On reading communication from the Legislative committee of Illinois State Medical Society relative to need of more medical representation in our State Legislature, our members expressed themselves as heartily in favor of the movement, and a motion that the chair appoint a committee of three to interview and assist in selecting a medical man from our district to represent us in the State Legislature, carried unanimously. The committee selected were Drs. Knight and Gourley of Waukegan, Billmeyer of Zion City. We then proceeded with the following very interesting program.

PROGRAM

"The Auto-inoculation Treatment of Pulmonary Tuberculosis."
Dr. H. H. Bay, member of staff Cook Co. Institutions.

"Symptomatology, Diagnosis and Operative Treatment of Tubercular Kidney."
Dr. W. S. Bellows.

"Surgical Interference in Glandular Tuberculosis."
Dr. F. L. Gourley.

"General Tuberculosis, Statistics and Symptomatology."
Dr. A. E. Budde.

Vote of thanks was extended Dr. Bay for excellent paper, after which we were served a Dutch lunch, buffet style. Adjourned to meet early in March.

C. S. AMBROSE, Secretary.

MORGAN COUNTY

The Morgan County Medical Society met February 10, subject, "Post Operative Adhesions." Dr. J. W. Hairgrove, leader. Being called away from the city the topic was discussed by various physicians from a standpoint of adhesions in different parts of the body, Dr. Adams bringing out the points and technique which would cause the least adhesions in nasal operations. Dr. Black and Dr. Stacy and Dr. Hardesty discussed the paper giving quite extensive case references.

Dr. Anny E. Petersen was elected to membership.

The following resolution was adopted:

Resolved, That the Morgan County Medical Society does hereby heartily endorse the popular movement known as "Baby week," and that we believe the results of such work will be of great benefit to our community. Therefore, we urge all citizens to take an active interest in the same.

The Society also approved of the following resolution which was previously passed on by the committee appointed by the president, Dr. Carl E. Black, Dr. E. A. Foley, Dr. T. G. McLin. The resolutions were passed on account of the death of Dr. Luther J. Harvey of Griggsville, Ill. Dr. Harvey was born at Warner, N. H., 1851, and emigrated to Illinois when a young man. He graduated from the medical department of Washington University in 1875 and at once began the practice of medicine at Griggsville, Illinois. He was licensed to practice medicine in Illinois in 1877. Consequently he has been in active practice in Griggsville for a little more than forty years. Dr. Harvey was also president of our Society.

WHEREAS, It has pleased Providence to remove from our midst Dr. Luther J. Harvey, and,

WHEREAS, He was for many years a devoted member of the Morgan County Medical Society, and

WHEREAS, He was always one of the active leaders in his profession, having organized the Pike County Medical Society and having been for a number of years councilor of the Illinois State Medical Society from this district, and

WHEREAS, He was always on the side of progress and just dealings in his profession as in his daily life, and

WHEREAS, He was constant in his efforts to forward all movements which would contribute to the amelioration of suffering and distress, and

WHEREAS, He was always a leader in all movements for the best interests of his community and his profession, and

WHEREAS, He always preserved in the community the highest possible character and sense of devoted citizenship. Therefore, Be It

Resolved by the Morgan County Medical Society that we express to the family of the late Dr. Luther J. Harvey our deep sense of loss in the passing of this useful and noble man and our great admiration for his many rare talents and that we take this means of expressing our sympathy in this hour of their bereavement, and, Be It Further

Resolved, That a copy of these resolutions be sent to the family of the deceased, and a copy be spread on the minutes of the Morgan County Medical Society, as an inspiration to others, and a copy be sent to the daily papers.

Committee:
T. O. HARDESTY, President.
CARL E. BLACK,
E. A. FOLEY,
T. G. MCLIN.

The Society adjourned to meet at our next regular meeting, March 9, subject, "The Relation of Tonsils to General Diseases." Dr. A. L. Adams.

THOS. G. MCLIN, Secretary.

ROCK ISLAND COUNTY

The regular meeting of the Rock Island County Medical Society was held February 8, 1916, at the New Harper Hotel, Rock Island. Dinner was served at seven o'clock with Dr. William Fuller of Chicago and Hon. H. A. Weld of Rock Island as guests of honor. After the routine business the following program was rendered:

"The Medical Expert from a Lawyer's Standpoint," by H. A. Weld.

"The Etiology and Present Status of the Treatment of Traumatic Bone Lesions," by William Fuller, M. D.

Both papers proved of unusual interest and called forth discussion from many members of the society. Dr. Fuller's paper was illustrated with lantern slides of original x-ray pictures.

Thirty-two members and four visitors attended this meeting.

A. E. WILLIAMS,
Secretary.

ST. CLAIR COUNTY.

The monthly meeting of the St. Clair County Medical Society was held in the Y. W. C. A. Hall, East St. Louis, February 10, 1916.

President B. H. Portuondo presided. A large number of members were present, also many principals and

teachers of the various schools of the city.

Dr. Frank R. Frey of St. Louis, Mo., read a paper on "Anxiety Neurosis." This paper dealt with the newer phases of nervous disorders, and was very instructive and highly appreciated by all present.

"Hygiene as Used in Public Schools," was the subject of the paper read by Dr. James Stewart of St. Louis. This paper of vital importance was attentively listened to by all present and undoubtedly will be of great benefit in helping to improve the hygienic conditions of our public institutions.

A. E. HANSING,
Secretary-Treasurer.

UNION COUNTY

The Union County Medical Society was called to order by President G. W. Morrow at 8 p. m., January 26, 1916, at the Stinson Memorial library, Anna, Ill.

Dr. A. J. Lyerla, Jonesboro, was elected to membership of the Legislative Committee of the state society.

Dr. E. V. Hale was elected delegate to the next state society meeting and Dr. L. D. Keith was named the alternate.

Dr. S. B. Norris read a paper on "Eclampsia" and reported some cases. The subject was discussed by every member present.

On motion the date of the meeting of the Society was changed from the last Wednesday to the last Thursday of each month.

Dr. P. S. Waters of the Anna State hospital, offered to give a stereopticon lecture at an early date.

Dr. W. E. Lingle of Cobden will read a paper on "La Grippe" at the next meeting which will be held on February 24 at the same place.

E. V. HALE, Secretary.

VERMILION COUNTY

The Vermilion County Medical Society met in the City Council Chamber, Danville, February 14, 1916, at 8:00 p. m., and was called to order by President Dale.

A very interesting program had been arranged, and 30 members were present. Communication in regard to Baby Week Campaign, and "Better Baby Contest" was read, and on motion was placed on the table.

Communication from "The Madison County Doctor" relative to general reciprocity was read. On motion the resolutions were adopted and Secretary was instructed to write the secretary of the State Board of Health, and the legislators from this district, stating that we are heartily in favor of these resolutions.

The program of the evening consisted of the "Illinois Liability Compensation Act," by Dr. S. C. Glidden. Discussion by Dr. E. B. Coolley. "Management of Extra-Uterine Pregnancy," Dr. A. M. Miller. Discussion opened by Dr. J. M. Guy. Both papers were enthusiastically discussed.

O. H. CRIST,
Secretary.

WINNEBAGO COUNTY

The Winnebago County Medical Society assembled for its regular monthly meting at Nelson hotel, Rockford, February 8, 1916. Members present 23; visitors, 2. Dr. D. B. Penniman in the chair. The reading of minutes was suspended. Dr. A. A. Willander of Rockford was admitted as a member.

Dr. R. W. Holmes of Rush Medical College, Chicago, addressed the society on the subject, "Curtailment of Indications for Cesarean Section." Dr. Holmes treated his theme very exhaustively and it should prove of practical value to those present. He discussed the indications under two headings: "The Definite" and "The Conditional." The speaker, throughout his talk, cautioned against needless section. Discussion followed, after which the society gave Dr. Holmes a rising vote of thanks.

C. M. RANSEEN,
Secretary.

Personals

Dr. Victor A. McClanahan of Viola, had one eye removed recently.

Dr. G. E. Dienst, Aurora, recently fell from a car and sustained a compound fracture.

Dr. Fred W. Moeller of Chicago reached Boston February 11, after service in the war zone.

Dr. LeRoy Chapin of Canton, was the victim of drug fiends who raided his office for "dope."

Dr. William Jayne, Springfield, fell on a slippery sidewalk, January 19, injuring his left hip.

Dr. Clarence M. Cheadle, Rockford, reached New York, February 11, after several months' service in Serbia.

Dr. J. C. Gunn of Belleville, has been appointed ocular surgeon to the Southern Railway Company for his district.

Dr. A. L. Mann of Elgin, was proposed for representative in the legislature by members of the Elgin Physicians' Club.

Dr. Beatrice C. Opre, Victoria, while visiting patients January 8, was seriously injured by her horse slipping and falling on her.

Dr. George P. Gill, Rockford, who has been serving with the British Expeditionary forces in France, arrived in Boston, February 11.

Dr. James I. Hale, Anna, has recovered after an operation for strangulated hernia performed at St. Mary's Infirmary, Cairo, January 13.

Drs. Roth and Horstman of Murphysboro, were acquitted in a suit for malpractice before the Jackson county circuit court, for $10,000.

Dr. William M. Thompson was slightly injured and his automobile was demolished in a collision with an automobile truck, February 14.

Dr. H. S. Lester of Streator, addressed the parent-teachers meeting at the Washington school, February 19, on medical school examinations.

Lieut.-Col. Jacob Frank, surgeon-general of Illinois, was elected president of the Army and Navy Club of Chicago at its annual meeting, February 7.

Dr. Jacob W. Bolotin, Chicago, is one of thirty school tuberculosis physicians recently appointed on competitive examination, in spite of his blindness.

Dr. Charles F. Yerger, attending physician at the Juvenile Detention Home, suffered concussion of the brain from an accidental blow on the head January 25.

Dr. William L. Kreider, Prairie City, one of the oldest practitioners of McDonough County, is critically ill as the result of a cerebral hemorrhage, February 11.

The "School of Evolution" of Elgin, offers lectures by Drs. W. S. Brown and Sallie Y. Howell and Attorney R. Waite Joslyn in a campaign for better babies.

Dr. Leander D. Keith, Anna, fell from a buggy recently, sustaining a fracture of the left arm above the elbow. He is said to be making satisfactory progress toward recovery.

Drs. Anna Dwyer and Effa B. Davis have been made members of a committee to draft a constitution and by-laws for a commission recently formed to study the wayward girl problem.

Dr. Fred. G. Hall of Galesburg, fractured a metacarpal bone while cranking his auto to call on another fracture case. Which reminds one that life is just one thing after another.

Dr. George T. Palmer of Springfield, delivered three lectures before the Chicago School of Philanthropy and Civics, last month, on "Social and Medical Social Work in Smaller Cities."

Dr. Charles B. Johnson, Champaign, delivered an address before the Rock Island County Historical Society at the Rock Island Y. M. C. A., February 4, on "What Illinois Did in the Civil War."

Dr. Frank S. Churchill, Chicago, has been elected vice-president of the Infant Welfare Society and Drs. W. A. Evans, Caroline Hedger and Clifford G. Grulee were elected members of the board.

Holdup men frisked Dr. A. H. Leviton of Chicago of his overcoat and valuables, but allowed him to keep his obstetrical bag. "Hurry along now, old man," one of the robbers said. "We wish the mother luck."

Dr. Gilbert Langdon Bailey, Oak Park, has purchased the estate known as the Higgenbotham farm about two miles from Lexington, Ky., on the Newton pike. Dr. Bailey expects to take possession of his farm March 1.

Dr. J. M. Postle of Dekalb, brought suit against twenty-five members of Elgin lodge of Eagles for medical services. He furnished his services to members' families on a per annum basis, but did not agree to furnish medicine, as alleged.

Dr. Mary L. Rosenstiel of Rockford, was driving her roadster four miles from town when it caught fire and was completely destroyed. The cause was thought to be either backfiring or from the anti-freezing mixture in the radiator. Car was insured.

Dr. C. Franklin Leavitt of Chicago, is said to have been remembered in a bequest to the amount of $100,000 by a Mrs. Paul of San Francisco, for "absent treatments." The bequest is being contested by the heirs, and it may be "absent too." This listens like the bequest of Mrs. McVicker to Dr. L. C. H. E. Zeigler, a few years ago.

Dr. Caroline Hedger has been making surveys of cities having large foreign populations for the National Americanization committee of New York. The object of the Society is to promote the rapid assimilation of the many foreign elements that now, through lack of educational and other opportunities, remain foreign in feelings and sentiments.

Dr. and Mrs. Harry M. Richter, Dr. Jacob R. Buchbinder, Dr. Joseph Loewe and two nurses making up the first hospital unit to go from Chicago to Germany, left for the war front, February 14. Dr. Richter will relieve Dr. John Fischer of the German hospital, New York, who has been in charge of a 500-bed hospital at Oppeln, near the Russian frontier.

Dr. Thomas Lewis Gilmer has been appointed dean of Northwestern University Dental School by the trustees, in succession to the late Dr. Greene Vardiman Black. Dr. Gilmer is a graduate of Washington University Dental department and of Chaddock School of Medicine, Quincy, Ill. He has held the chair of oral surgery in Northwestern University Dental School more than twenty years.

News Notes

—The American Medical Golfing Association will list as charter members all fellows of the American Medical Association who enroll before April 1, next. This association was organized last year and held its first tournament at San Francisco, June 21, 1915. The officers are: President, Wendell C. Phillips, New York; vice-president, James Eaves, San Francisco; secretary-treasurer, Will Walter, 122 S. Michigan boulevard, Chicago.

—Peter Zimney, a fleshing machine operator in a Chicago tannery, died from anthrax, February 19, being infected from a hide through a scratch. This is said to be the only death from anthrax on record in Chicago.

—John J. Hatton, who posed as a physician was sent to the bridewell February 18, on a charge of violating the Harrison law.

—Epidemics of scarlet fever caused closing of schools last month in Alton (Western Military Academy) and in Hinsdale. A reported epidemic at Great Lakes training school was denied by the superintendent. There were only seven cases. There were also a number of cases in the Home for the Friendless in Peoria.

—Whooping cough numbered thirty-one cases in the Odd Fellows Orphan Home in Lincoln.

—Eight cases of smallpox developed in the Cook County Hospital last month. General vaccination and restriction of visiting stopped what threatened to be a serious epidemic.

—The Illinois State Hospitals Medical Association met at the Jacksonville State Hospital, February 24 and 25.

—Dr. George L. Apfelbach, director of the Occupational Disease Clinic of the Illinois Department of Factory Inspection, delivered an illustrated lecture on "Occupational Hygiene," in the auditorium of the Chicago Turngemeinde, January 19.

—Eight cases of smallpox have recently occurred at the Cook County Hospital. Five wards have been put under quarantine and wholesale vaccination has been practiced.

—The finance committee of the board of commissioners of Cook County has promised that plans for building an emergency hospital for South Chicago to cost $100,000 will be considered by the board this year. Preliminary plans for the building will soon be submitted.

—Physicians of Rock Island at a called meeting appointed a committee to draft resolutions protesting against the proposed removal of R. W. Sharp as superintendent of the city water works, and commending the efficient management of the water department.

—Thirty-five more nurses from the Mercy Hospital, Chicago, sailed from New York, February 2 for England to minister to the wounded soldiers of the allies. Miss Mabel Adamson is in charge of the party.

—A Chicago branch of the American National committee for the foundation of special American hospitals in Paris for wounds of the face and jaw has been appointed. About $100,000 will be required for this purpose, of which $30,000 has so far been secured and the American Red Cross agrees to donate $2,000 for every $18,000 raised by subscription. The committee consists of Drs. Truman W. Brophy, chairman, and L. L. Davis and George West.

—The Robert Koch Society for the study of tuerculosis met at the Morrison hotel, Clark and Madison streets, on Thursday, February 17, at noon. Subject for discussion, "Tuberculosis of the Kidney." Dr. D. P. Phemister, pathology; Dr. Daniel N. Eisendrath, symptomatology; Dr. Herman L. Kretschmer, diagnosis and treatment.

—Dr. Wolff Freudenthal, president of the German Medical Society of New York, addressed the German Medical Society of Chicago by in-

vitation on Thursday, February 17, on: "The direct galvanization and faradization of the bronchi and their topical medicinal treatment in bronchial asthma."

—Dr. A. C. Ragsdale, formerly of Metropolis, Illinois, has recently bought the practice of Dr. J. P. Nelson of Gorham, Illinois, and removed to that place. Dr. Nelson has removed to Dow, Oklahoma. We wish them both success in their new fields of practice.

Marriages

JAMES A. CAMPBELL, M. D., Elgin, Ill., to Miss Ruby Dale, at Los Angeles, February 3.

WILLIAM THOMAS COLLINS, M. D., Freeport, Ill., to Miss Gertrude Hollister of Lake Linden, Mich., December 25.

LEO MATTHEW CZAJA, M. D., to Miss Julie Belohavek, both of Chicago, February 15.

RAYMOND JOHN NEFF, M. D., Oak Park, Ill., to Miss Nina Beggs of Chicago, in Crown Point, Ind., January 18.

ERWIN PAUL ZEISLER, M. D., Chicago, to Miss Ruth Spiro of South Bend, Ind., at Chicago, February 14.

SAMUEL M. MORWITZ, M. D., to Miss Marguerite Lewitan, both of Chicago, at Buffalo, N. Y., January 18.

JOSEPH H. MCGOVERN, M. D., Lenzburg, to Miss Daisy Hedges of Lynville, Ind., January 17.

Obituary

Henry Baird Favill, M. D., one of the best known men in the state, both professionally and in many civic activities, died of pneumonia in Springfield, Mass., February 20. Dr. Favill was born in Madison, Wis., August 14, 1860. Was graduated from the University of Wisconsin in 1880 and from Rush Medical College in 1883. Served as interne in Cook County Hospital. Began practice in Madison with his father.

In 1893 he removed to Chicago where he rapidly built up a practice which placed him in the forefront of the medical profession. This alone would crown the ambition of most physicians of great ability. Dr. Favill was intensely interested in social conditions and early became one of the leaders in the various movements to increase the efficiency of the city council. As president of the Municipal Voters League his advice to the voters on the records of candidates for office came to have far greater weight than the pronouncements of party organs.

Lessing Rosenthal, who succeeded Dr. Favill as president in 1910, said of him: "His powerful frame housed a powerful mind, whose intelligent force constantly was exerted in the service of the community. Good government, clean politics, municipal improvement and sanitary progress have lost one of their ablest champions."

As director of the City Club from 1905 and president for two terms he was a leader in the city's progressive life. Owner of a herd of Holstein cattle he became interested in dairying and was elected president of the National Holstein-Friesian club and was a member of the National Dairy Council. He was a trustee of Chicago Commons; a member of the Commercial Club's committee on education and president of the Chicago Tuberculosis Institute till three years ago. He was a lieutenant in the medical reserve corps of the army.

HENRY BAIRD FAVILL, M. D.

Tracing his ancestry to a chief of the Ottawa Indians, he was proud of his Indian blood, fond

of outdoor life and never addicted to wearing an overcoat.

Discussing "hyphenated" Americans, he was wont to say that he was one of the few real Americans in Chicago.

Dr. Favill was professor of medicine in the Chicago Polyclinic; professor of therapeutics and later professor of clinical medicine in Rush Medical College. From 1910 to his death he was chairman of the Council on Health and Public Instruction of the American Medical Association. He was president of the Chicago Medical Society, in 1907-1910.

Deaths

EDWARD H. WEBSTER, M. D. Northwestern University Medical School, Chicago, 1877; of Evanston, died.

AUGUSTUS H. MEATH, M. D. Rush Medical College, 1888; aged 56; died at his home in Chicago, February 16, from pneumonia.

JAMES J. PIPER, M. D. Missouri Medical College, St. Louis, 1877; aged 80; died at his home in Chicago, January 25, from pneumonia.

BENJAMIN F. WAYMAN (license, Illinois, 1878), aged 63; died at his home in Walnut Hill, Ill., January 5, from organic heart disease.

SAMUEL S. CANBY, M. D. Missouri Medical College, St. Louis, 1878; aged 67; died at his home in Calhoun, Ill., January 17, from pneumonia.

WILSON BROWN, M. D. Missouri Medical College, St. Louis, 1878; aged 71; of Alto Pass, Ill.; died January 16, at the Hale Sanatorium, Anna, Ill., from diabetes.

DAVID W. SCOTT, M. D. Eclectic Medical Institute, Cincinnati, 1871; aged 83; for many years a practitioner of Freeport, Ill.; died in Zion City, Ill., January 16.

WILLIAM W. BELL, M. D. Jefferson Medical College, 1858; aged 77; a veteran of the Civil War; died at his home in Chicago, November 27, from arteriosclerosis.

ADRIAN L. MOODY, M. D. Northwestern University Medical School, Chicago, 1882; aged 61; died at his home in Chicago, February 3, after an invalidism of twenty-five years from paraplegia.

REUBEN WADDELL GRAHAM, M. D. College of Physicians and Surgeons, Chicago, 1915; aged 23; an interne in the Illinois Steel Company's Hospital, South Chicago, Ill.; died January 31, from diphtheria.

FRANKLIN HARVEY HANEY, M. D. Chicago College of Medicine and Surgery, 1909; aged 38; for thirteen years a pharmacist and practitioner of Illinois; died at his home in Walnut, Ill., January 11, from endocarditis.

JAMES BROWN, M. D. Ashton, Ill.; Rush Medical College, 1862; aged 84; surgeon of the Sixty-Sixth Illinois Volunteer Infantry throughout the Civil War; a practitioner of Ashton since 1868; died at his home, January 23.

GEORGE P. RIDER, M. D., Wilmette, Ill.; Albany (N. Y.) Medical College, 1888; aged 51; who abandoned practice after a short time for mining interests; was shot in Denver, February 9, and died two days later from pneumonia.

JABEZ DEAN HAMMOND, M. D., Chicago; Rush Medical College, 1885; aged 55; a Fellow of the American Medical Association, since 1893 house physician at the Congress Hotel, Chicago; died at his home, February 15, from uremia.

GEORGE S. WHEELER, M. D., Waukegan, Ill.; Rush Medical College, 1850; aged 87; who practiced for a few years in Chicago and then moved to Waukegan where he kept a book shop for half a century; died at his home, February 20.

DANIEL M. CAMERER, M. D. Rush Medical College, 1849; at the time of his death the oldest living graduate of that institution; aged 91; said to have been the oldest practitioner of Illinois; died at his home in Chrisman, Ill., January 29.

JAMES BUMSTEAD, M. D. Dundee, Ill.; Northwestern University Medical School, Chicago, 1880; aged 67; a practitioner of Dundee since his graduation and one of the most beloved practitioners of Kane County; died at his home, February 15, from pneumonia.

THOMAS BENTON SWARTZ, M. D. Northwestern University Medical School, 1888; aged 60; a Fellow of the American Medical Association; was stricken with cerebral hemorrhage, January 28, while making a professional call, and died at his home in Chicago, February 1.

CHARLES C. GRIZZELL, M. D. Missouri Medical College, St. Louis, 1889; aged 56; formerly a member of the Illinois State Medical Society and first vice-president of the Southern Illinois Medical Association; of Murphysboro, Ill.; a specialist on diseases of the eye, ear, nose and throat; died at his home near Murphysboro, January 17.

JAMES LARUE WADSWORTH, M. D. Northwestern University Medical School, Chicago, 1863; aged 77; a Fellow of the American Medical Association; formerly a member of the Illinois State Board of Charities; surgeon to the Vandalia Consolidated Coal Company, Collinsville, and formerly mayor of that city; died in his office in Collinsville, January 26.

JOHN DEAL, M. D. Riverton; University of Nashville, Medical Department, 1878; aged 69 years; died at his home, February 3, from pneumonia. Dr. Deal

was born in Pennsylvania in 1847. In 1868 he entered Lombard University at Galesburg, Ill. He taught school in Morrisville and later held the chair of Latin and mathematics in Central Tennessee College at Nashville. A year after graduation in medicine he settled in Riverton. Dr. Deal was a Republican in politics and served as mayor of Riverton. He is survived by his wife; two sons, Drs. Don Deal and John W. Deal of Springfield, and three brothers, Rev. Francis Deal of Los Angeles, George Deal of Taylorville and David Deal of Morrisonville.

NEW AND NON-OFFICIAL REMEDIES.

During January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

E. R. Squibb and Sons: Antistreptococcus Serum, Rheumaticus.

Lyster Brothers: Lysters Prepared Casein Diabetic Flour.

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies":

Calcium Phenolsulphonate, P. W. R.—A non-proprietary brand of calcium phenolsulphonate admitted to New and Non-official Remedies. Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Iron Lactate, Merck.—A non-proprietary brand of ferrous lactate admitted to New and Non-official Remedies. Merck and Company, New York.

Sodium Phosphate, Monobasic, Merck.—A non-proprietary brand of sodium acid phosphate admitted to New and Non-official Remedies. Merck & Co., New York.

Phloridzin, Merck.—A non-proprietary brand of phloridzin admitted to New and Non-official Remedies. Merck & Co., New York.

Sulphanilic Acid, Merck.—A non-proprietary brand of sulphanilic acid admitted to New and Non-official Remedies. Merck & Co., New York.

Ergotin, Merck.—A non-proprietary brand of extract of ergot, purified, admitted to New and Non-official Remedies. Merck & Co., New York.

Antithyroidin-Moebius Tablets, ¾ gr.—Each tablet contains antithyroidin-moebius ¼ gr. Merck & Co., New York.

Euquinine Tablets, 2 grs.—Each tablet contains euquinine 2 grains. Merck & Co., New York.

Euquinine Tablets, 5 grs.—Each tablet contains euquinine 5 grains. Merck & Co., New York.

Ferratin Tablets, 7½ grs.—Each tablet contains ferratin 7½ grains. Merck & Co., New York.

Stypticin Hypodermic Tablets, ¾ gr.—Each tablet contains stypticin ¾ gr. Merck & Co., New York.

Stypticin Sugar-Coated Tablets, ¾ gr.—Each tablet contains stypticin ¾ grain. Merck & Co., New York.

Stypticin Dental Tablets, ¾ gr.—Each tablet contains stypticin ¾ grain. Merck & Co., New York. (*Jour. A. M. A.*, January 1, 1916, p. 31.)

Dionin Tablets, ¼ gr.—Each tablet contains dionin ¼ grain. Merck & Co., New York.

Dionin Tablets, 1 gr.—Each tablet contains dionin 1 grain. Merck & Co., New York.

Theophyllin Sodium Acetate Tablets, 0.15 gm.—Each tablet contains theophyllin sodium acetate 0.15 gm. Merck & Co., New York.

Triphenin Tablets, 5 gr.—Each tablet contains triphenin 5 grains. Merck & Co., New York.

Tubes Tropacocaine Hydrochloride, Sterilized, 1 gr.—Each tube contains tropacocaine hydrochloride 1 grain. Merck & Co., New York.

Veronal-Sodium Tablets, 5 grs.—Each tablet contains veronal-sodium 5 grains. Merck & Co., New York.

Iodipin Tablets, 3 min.—Each tablet contains iodipin 3 minims. Merck & Co., New York.

Apiol—Merck.—A non-proprietary brand complying with the standards for apiol. Merck & Co., New York.

Creosote Carbonate—Merck.—A non-proprietary brand complying with the standards for creosote carbonate. Merck & Co., New York.

Phenolphthalein—Merck.—A non-proprietary brand complying with the standards for phenolphthalein. Merck & Co., New York.

Quinine Tannate—Merck.—A non-proprietary brand complying with the standards for quinine tannate. Merck & Co., New York.

Sodium Nucleinate—Merck.—A non-proprietary brand complying with the standards for sodium nucleate. Merck & Co., New York. (*Jour. A. M. A.*, January 8, 1916, p. 117.)

Swan's Typhoid Bacterin (No. 44) (Prophylactic.)—Marketed in packages (hospital) of thirty-six vials and in packages (board of health) of seventy-two vials. Swan-Myers Co., Indianapolis, Ind. (*Jour. A. M. A.*, Jan. 15, 1916, p. 191.)

Radio-Rem, Outfit No. 5.—An apparatus designed for the production of radioactive drinking water by the action of radium sulphate contained in terra cotta plates. It consists of two plates contained in 250 c. c. bottles; when the bottles are filled with water the two plates impart about 3.6 microcurie (10,000 Mache units) to 500 c. c. water daily. For action, uses and dosage refer to the article on radium in New and Non-official Remedies. Schieffelin & Co., New York. (*Jour. A. M. A.*, Jan. 15, 1916, p. 191.)

Diphtheria Toxin Standardized (Schick Test).—is intended to determine those persons who have not in their blood an amount of diphtheria antitoxin sufficient to render them immune to diphtheria. The test is of special value for use in institutions and among groups of persons exposed to diphtheria, in order that it may be determined which individuals should be given an immunizing dose of diphtheria antitoxin. It is also of value in the diagnosis of other conditions simulating diphtheric infections.

Diphtheria, Toxin Standardized (Schick Test.—Marketed in sealed capillary tubes each containing a solution of one-fiftieth of a minimal lethal dose for guinea pigs of diphtheria toxin. H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Jan. 15, 1916, p. 191.)

Dimazon. — Diacetylaminoazotoluene. An orange-colored powder, insoluble in water, but soluble in alcohol, chloroform, oils, fats and petrolatum. It does not stain the hands or cloth. It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc. Dimazon is marketed as follows:

Dimazon Oil.—2 per cent.

Dimazon Ointment.—2 per cent.

Dimazon Powder.—5 per cent. Heilkraft Medical Co., Boston, Mass. (*Jour. A. M. A.*, Jan. 22, 1916, p. 275.)

Ichthalbin Tablets, 5 grs.—Each tablet contains ichthalbin 5 grains. Merck & Co., New York.

Triferrin Tablets, 5 grs.—Each tablet contains triferrin 5 grains. Merck & Co., New York.

Bethanaphthol Benzoate—Roche.—A non-proprietary brand complying with the standards for betanaphthol benzoate. Hoffmann-LaRoche Chemical Works, New York.

Betain Hydrochloride—Roche.—A non-proprietary brand complying with the standards for betain hydrochloride. Hoffmann-LaRoche Chemical Works, New York. (*Jour. A. M. A.*, Jan. 22, 1916, p. 275.)

Ergotinine Citrate — Roche. — A non-proprietary brand complying with the standards for ergotinine citrate. Hoffmann-LaRoche Chemical Works, New York.

Homatropine Hydrochloride—Roche.—A non-proprietary brand complying with the standards for homatropine hydrochloride. Hoffmann-LaRoche Chemical Works, New York.

Seiden Peptone—Roche (Silk Peptone).—A non-proprietary brand complying with the standards for silk peptone. Hoffmann-LaRoche Chemical Works, New York.

Theobromine and Sodium Acetate—Roche.—A non-proprietary brand complying with the standards for theobromine sodium acetate. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Jan. 29, 1916, p. 355).

Book Notices

FORTY-SEVENTH ANNUAL REPORT OF THE SECRETARY OF STATE ON THE REGISTRATION OF BIRTHS AND DEATHS, MARRIAGES AND DIVORCES IN MICHIGAN FOR THE YEAR 1913. Coleman C. Vaughan, Secretary of State. By Authority. Lansing, Mich., Wynkoop Hallenbeck Crawford Co., State Printers, 1915.

CLINICAL STUDIES IN THE RELATIONSHIP OF INSANITY TO CRIME, by Paul E. Bowers, M. S., M. D.; formerly A. A. Surgeon United States Public Health Service; formerly Junior Assistant Physician Government Hospital for the Insane, Washington, D. C. Physician in charge Indiana Hospital for Insane Criminals; physician in charge Indiana State Prison Hospital; President of American Prison Physicians' Association; member of the Indiana Academy of Science; member of the American Association Clinical Criminology; First Lieutenant Medical Reserve Corps U. S. A.; Fellow American Medical Association. Price, $1.50. The Alexander Publishing Company, Michigan City, Indiana.

NEWER ASPECTS OF BLOOD EXAMINATION. Abderhalden's Sera-Diagnosis and Complement Fixation Test.

Three pamphlets by Dr. R. W. Webster, of the Chicago Laboratories. The booklets discuss these subjects from the laboratory standpoint and for free distribution.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, M. D., Professor of Hygiene and Dean of the Medico-Chirurgical College, Philadelphia. New (6th) edition, thoroughly revised. 12mo, 525 pages, with 141 figures and 5 plates. Cloth, $2.25, net. Lea & Febiger, Philadelphia and New York, 1916.

Six editions of a volume intended for a special class of workers, is evidence of the value of the book and of its popularity.

Sanitation is the basis of preventive medicine. The methods of sanitation are changing as completely as in any other field of medicine, hence the necessity of the last word in sanitation and hygiene.

A new chapter has been added to this edition upon "Industrial Hygiene and Occupational Diseases." While the book is primarily of interest and value to health officers, it will also be found especially valuable to the practitioner of medicine, as we today must be sanitarian as well as practitioner. We consider the book an authoritative work, covering a large field briefly, yet clearly.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE. By Arthur R. Edwards, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine and Dean of the Northwestern University Medical School, Chicago. New (third) edition, thoroughly revised. Octavo, 1022 pages, with 80 engravings and 23 full-page plates in colors and monochrome. Cloth, $6.00, net. Lea & Febiger, Philadelphia and New York, 1916.

This book is the product of an experienced physician, an eminent teacher, a thorough student, and an unceasing worker. It was written for a text-book of the practice of medicine. To cover the entire field of medicine in one volume, the work must be very carefully systematized, which, in this instance, has been done very cleverly.

Written primarily as a text for students, it is not overloaded with theory, but gives those theories which seem to be important today. Etiology, pathology, and diagnosis are carefully delineated. Treatment also receives generous attention, and is designed to be practical. The book throughout seems to lean toward the practical, making it especially valuable to the practitioner.

The book stands out prominently as one of the good works of its class, and we predict a continuation of its popularity.